since 1976

when you need solution

High-Tech Beams

Reach The Edge

COMPONENTS H&H DESIGN

DB Products Limited

ISO9001:2000

Preface ››

DB Products Limited is a professional acoustic components manufacturer. Since our early establishment in 1976, research and development is and always been one of our key of success. We designs and manufactures some of the leading components that is now using in the world market, currently we have over 4,000 different models, and the number is still growing everyday.

We at DB believe that by combining the human hearing sensation and electronics together, we will create what is called "Senology". Although not yet a registered word in the dictionary, we believe by integrating this new concept into our product and services, it will help our customers significantly and enhance their competitiveness in the world market.

At DB Products, you receive superior services, a wide and comprehensive range of products of selection, professional technical advice and overall value which will exceed your expectations.

This catalog serves only as a brief introduction to our products; please ensure that the component is thoroughly evaluated into your application circuit.

We also welcome special O.E.M. parts and designs from our customers which is not covered in this catalogue.

Contact DB today and you shall experience the difference.

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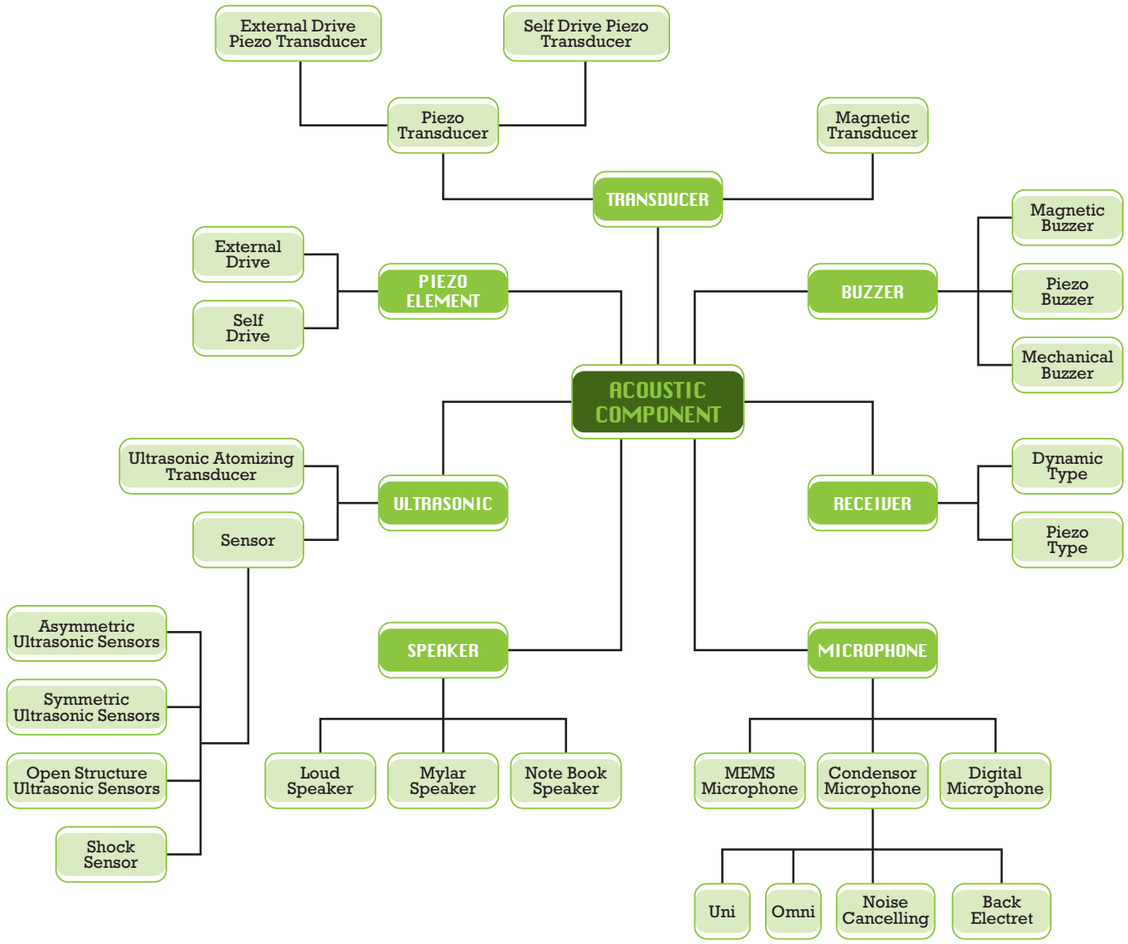
‹‹ Acoustic Family



01. Transducer

– Magnetic Transducer

DB Products Limited

Magnetic Transducer

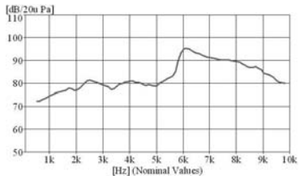
DB Series	Model	Diameter (Ømm)	Height (mm)	Rated Voltage (V)	Coil Resistance (Ω)	Min. Sound Output (dBA)	Frequency (Hz)	Page No.
RDT042	RDT0423A	4 x 3	2	3	10 ± 2	68 at 5cm	1100	006
UDT052	UDT0523D	5 x 5	2	3	12 ± 2	78 at 10cm	4000	006
UDT053	UDT0533D	5 x 5	3	3	12 ± 3	78 at 10cm	4000	006
DB110	DB110	6.7	3.6	1.5	8 ± 1	70 at 10cm	2730	007
UDT072	UDT0723B	7.5 x 7.5	2	3.6	12 ± 2	85 at 10cm	2700	007
UDT082	UDT0823A	8 x 8	2.5	3.6	16 ± 2.4	88 at 10cm	2670	007
UDT083	UDT0833A	8.5 x 8.5	3	3.6	16 ± 2.4	90 at 10cm	2670	008
SDT083A	SDT083A3B	8.5 x 8.5	3.2	3.6	16 ± 3	85 at 10cm	2730	008
SDT084A	SDT084A5A	8.5 x 8.5	4	5	30 ± 3	87 at 10cm	2350	008
CDX094A	CDX094A3B	9	4	3	16 ± 3	85 at 10cm	2730	009
CDT094A	CDT094A3C	9	4	3.6	16 ± 3	87 at 10cm	3100	009
DB109	DB109	9	4	3	20 ± 3	82 at 10cm	2731	009
UDX	UDX05B	9	5.5	5	40 ± 7.5	85 at 10cm	2731	010
CDT092	CDT0927B	9	2.5	3	16 ± 3	85 at 10cm	2731	010
UDT094	UDT0943A	9 x 9	4	3.6	16 ± 3	85 at 10cm	2670	010
CDT093A	CDT093A3A	9.6	3.2	3.6	16 ± 2.4	90 at 10cm	2670	011
WDX	WDX05B	9.6	5	5	40 ± 7.5	85 at 10cm	2731	011
MDX	MDX01C	9.5	7	1.5	5.5 ± 1	80 at 10cm	3100	011
RDT102	RDT1023A	10 x 8.5	2	3.6	16 ± 2.4	88 at 10cm	2670	012
DB107	DB107	12	4	1.5	16 ± 4	75 at 10cm	2400	012
DB105	DB105	12	5.4	1.5	50 ± 7.5	70 at 10cm	2048	012
DB102	DB102G	12	5.6	1.5	15 ± 7.5	75 at 10cm	2048	013
DB106	DB106C	12	5.4	3.6	42 ± 5	70 at 10cm	1980	013
PDX07	PDX07B	12	6	1.5	5 ± 1	85 at 10cm	2700	013
PDX04	PDX04A	12	7.5	1.5	6.5 ± 1	85 at 10cm	2048	014
DB111	DB111	12	8.5	1.5	42 ± 5	80 at 10cm	2048	014
DBX	DBX05	12	9	5	47 ± 5	85 at 10cm	2400	014
DBX	DBX12	12	9	12	140 ± 14	85 at 10cm	2400	014
ZDX	ZDX06	12	9.5	6	50 ± 5	85 at 10cm	2200	015
HDX	HDX05	12	10	5	40 ± 5	85 at 10cm	2400	015
DB113	DB113	12	13	1.5	16 ± 4.5	80 at 10cm	2048	015
SCDX	SCDX05A	12.8	7.1	5	47 ± 5	87 at 10cm	2048	016
SCDX	SCDX12	12.8	7.1	12	140 ± 14	87 at 10cm	2400	016
SDBX	SDBX05	12.8	10	5	47 ± 5	85 at 10cm	2400	016
SDBX	SDBX12	12.8	10	12	140 ± 14	85 at 10cm	2400	016
DB108	DB108	14	5	3	15 ± 6	85 at 10cm	2000	016
RDT143A	RDT143A5B	14 x 11	3	5	43 ± 3	87 at 10cm	2730	017
GDX	GDX05	16	12	5	28 ± 3	85 at 10cm	2048	017
GDX	GDX12	16	12	12	135 ± 20	85 at 10cm	2048	017
DB	DB06	16	14	6	50 ± 5	85 at 10cm	2048	017
DB	DB12	16	14	12	115 ± 12	85 at 10cm	2048	017
RDX	RDX06	16	14.5	6	45 ± 7	85 at 10cm	2048	018
RDX	RDX12	16	14.5	12	115 ± 17	85 at 10cm	2048	018
SDX	SDX06	18 x 14	10.5	6	60 ± 9	90 at 10cm	2048	018
SDX	SDX12	18 x 14	10.5	12	120 ± 18	85 at 10cm	2048	018
TDX	TDX06	25	12.5	5	27 ± 4	85 at 10cm	730	018

– RDT042 Magnetic Transducer

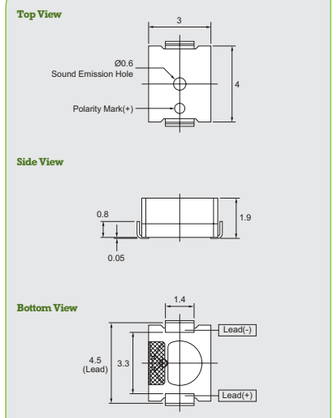
- electrical specifications

Model		RDT0423A
Operating Voltage	(V)	2 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	120
Coil Resistance	(Ω)	10 ± 2
Min. Sound Output	(dBA)	68 at 5cm
Frequency	(Hz)	1100
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.05

- Frequency Response



- dimensions



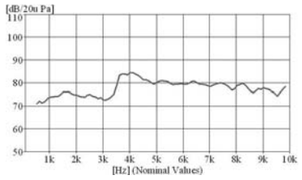
all dimensions are in mm

– UDT052 Magnetic Transducer

- electrical specifications

Model		UDT0523D
Operating Voltage	(V)	2 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	12 ± 2
Min. Sound Output	(dBA)	78 at 10cm
Frequency	(Hz)	4000
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.12

- Frequency Response



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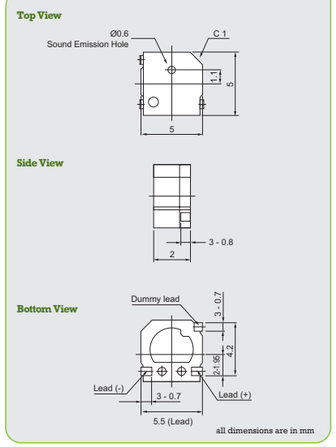


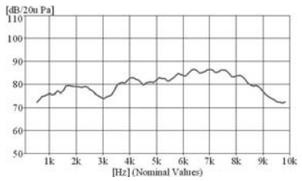
all dimensions are in mm

– UDT053 Magnetic Transducer

- electrical specifications

Model		UDT0533D
Operating Voltage	(V)	2 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	12 ± 3
Min. Sound Output	(dBA)	78 at 10cm
Frequency	(Hz)	4000
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.16

- Frequency Response



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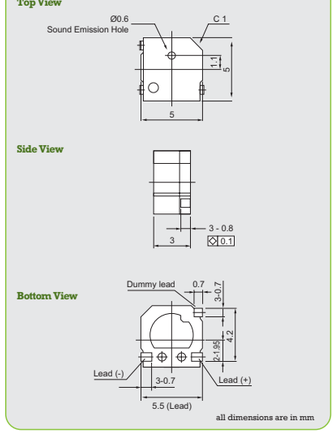

all dimensions are in mm

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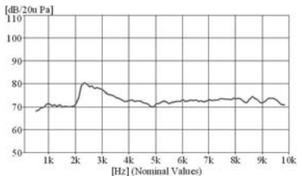
– DB110 Magnetic Transducer

- electrical specifications

Model		DB110
Operating Voltage	(V)	1 ~ 3
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	80
Coil Resistance	(Ω)	8 ± 1
Min. Sound Output	(dBA)	70 at 10cm
Frequency	(Hz)	2730
Operating Temperature	(°C)	-20 ~ +80
Weight	(g)	1

- Frequency Response



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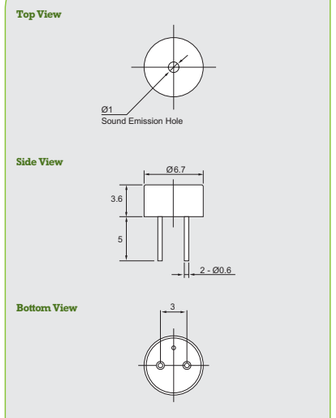


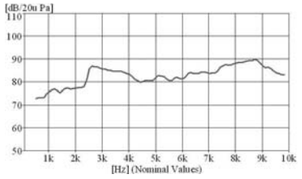
all dimensions are in mm

– UDT072 Magnetic Transducer

- electrical specifications

Model		UDT0723B
Operating Voltage	(V)	2.5 ~ 4.5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	12 ± 2
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2700
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.33

- Frequency Response



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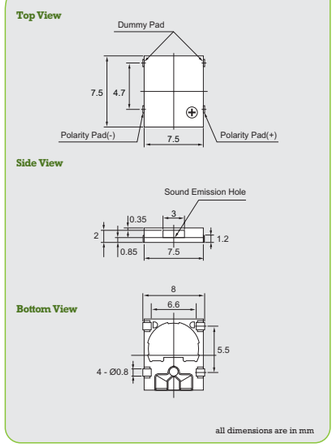


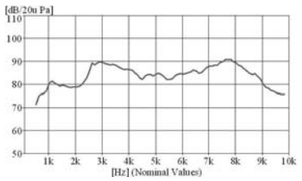
all dimensions are in mm

– UDT082 Magnetic Transducer

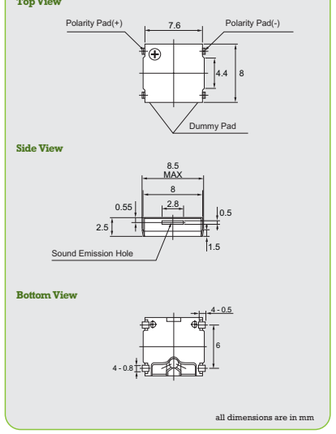
- electrical specifications

Model		UDT0823A
Operating Voltage	(V)	2 ~ 5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	90
Coil Resistance	(Ω)	16 ± 2.4
Min. Sound Output	(dBA)	88 at 10cm
Frequency	(Hz)	2670
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	0.37

- Frequency Response



- dimensions



all dimensions are in mm

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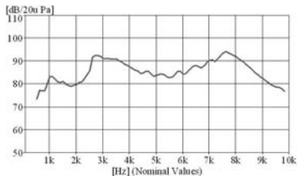
– UDT083 Magnetic Transducer

- electrical specifications

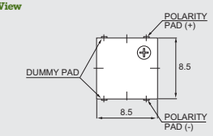
Model		UDT0833A
Operating Voltage	(V)	2 ~ 5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	90
Coil Resistance	(Ω)	16 ± 2.4
Min. Sound Output	(dBA)	90 at 10cm
Frequency	(Hz)	2670
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.4

- Frequency Response

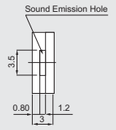


- dimensions

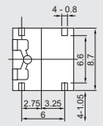
Top View



Side View

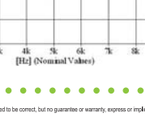


Bottom View



all dimensions are in mm

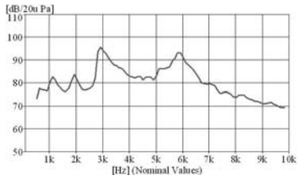
– SDT083A Magnetic Transducer



- electrical specifications

Model		SDT083A3B
Operating Voltage	(V)	2.5 ~ 4.5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	16 ± 3
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2730
Operating Temperature	(°C)	-40 ~ +105
Weight	(g)	0.5

- Frequency Response



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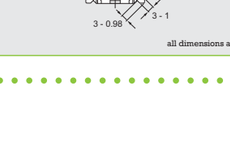
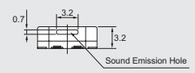
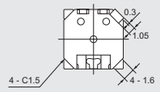
Top View



Side View



Bottom View



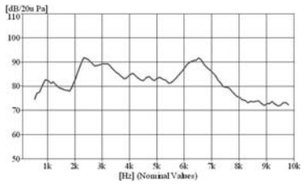
all dimensions are in mm

– SDT084 Magnetic Transducer

- electrical specifications

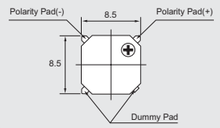
Model		SDT0845A
Operating Voltage	(V)	3 ~ 7
Rated Voltage	(V)	5
Max. Rated Current	(mA)	90
Coil Resistance	(Ω)	30 ± 3
Min. Sound Output	(dBA)	87 at 10cm
Frequency	(Hz)	2350
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.6

- Frequency Response

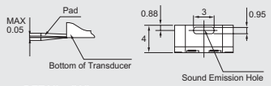


- dimensions

Top View

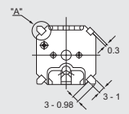


Side View



DETAIL - "A"

Bottom View



all dimensions are in mm

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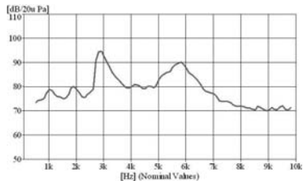
– CDX094A Magnetic Transducer

- electrical specifications

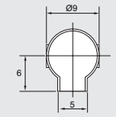
Model		CDX094A3B
Operating Voltage	(V)	2 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	70
Coil Resistance	(Ω)	16 ± 3
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2730
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	0.7

- Frequency Response

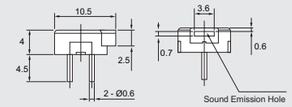


- dimensions

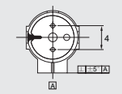
Top View



Side View

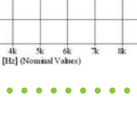


Bottom View



all dimensions are in mm

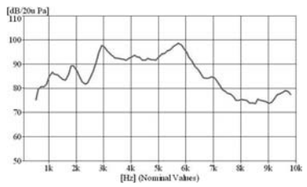
– CDT094A Magnetic Transducer



- electrical specifications

Model		CDT094A3C
Operating Voltage	(V)	2.5 ~ 4.5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	90
Coil Resistance	(Ω)	16 ± 3
Min. Sound Output	(dBA)	87 at 10cm
Frequency	(Hz)	3100
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	0.7

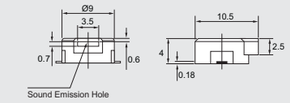
- Frequency Response



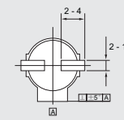
- dimensions

Top View

Side View



Bottom View



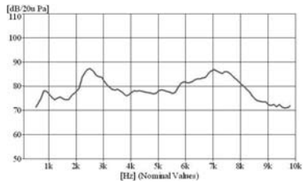
all dimensions are in mm

– DB109 Magnetic Transducer

- electrical specifications

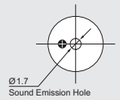
Model		DB109
Operating Voltage	(V)	2 ~ 5
Rated Voltage	(V)	3
Max. Rated Current	(mA)	70
Coil Resistance	(Ω)	20 ± 3
Min. Sound Output	(dBA)	82 at 10cm
Frequency	(Hz)	2731
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	0.6

- Frequency Response

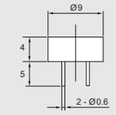


- dimensions

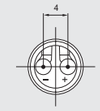
Top View



Side View



Bottom View



all dimensions are in mm

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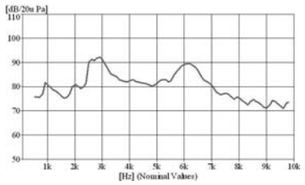
– UDX Magnetic Transducer

- electrical specifications

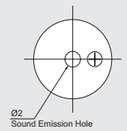
Model		UDX05B
Operating Voltage	(V)	4 ~ 8
Rated Voltage	(V)	5
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	40 ± 7.5
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2731
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- Frequency Response

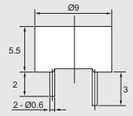


- dimensions

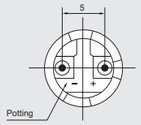
Top View



Side View

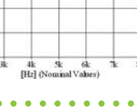


Bottom View



all dimensions are in mm

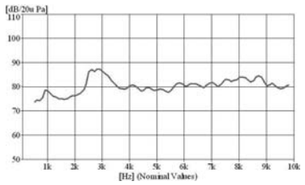
– CDT092 Magnetic Transducer



- electrical specifications

Model		CDT0927B
Operating Voltage	(V)	2 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	85
Coil Resistance	(Ω)	16 ± 3
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2731
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	0.6

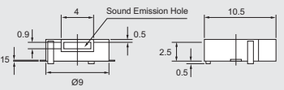
- Frequency Response



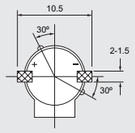
- dimensions

Top View

Side View



Bottom View



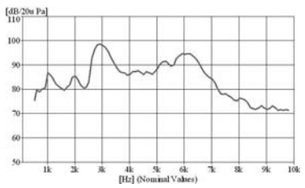
all dimensions are in mm

– UDT094 Magnetic Transducer

- electrical specifications

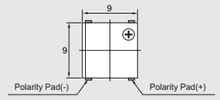
Model		UDT0943A
Operating Voltage	(V)	2.5 ~ 4.5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	16 ± 3
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2670
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	1

- Frequency Response

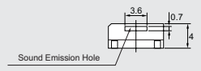


- dimensions

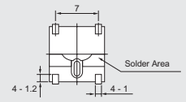
Top View



Side View



Bottom View



all dimensions are in mm

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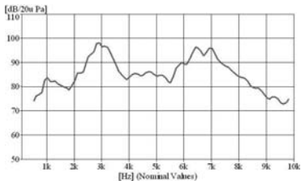
– CDT093A Magnetic Transducer

- electrical specifications

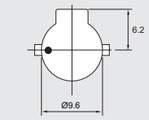
Model		CDT093A3A
Operating Voltage	(V)	2 ~ 5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	80
Coil Resistance	(Ω)	16 ± 2.4
Min. Sound Output	(dBA)	90 at 10cm
Frequency	(Hz)	2670
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.5

- Frequency Response

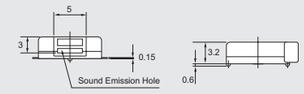


- dimensions

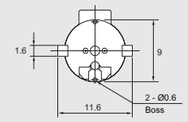
Top View



Side View

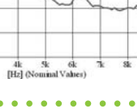


Bottom View



all dimensions are in mm

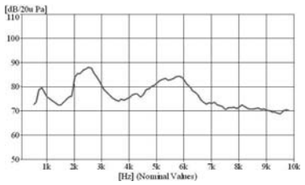
– WDX Magnetic Transducer



- electrical specifications

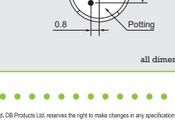
Model		WDX05B
Operating Voltage	(V)	4 ~ 8
Rated Voltage	(V)	5
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	40 ± 7.5
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2731
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- Frequency Response

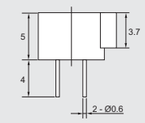


- dimensions

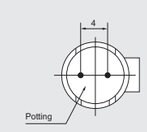
Top View



Side View



Bottom View



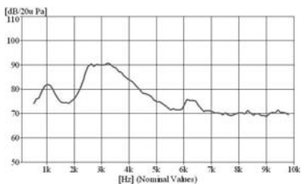
all dimensions are in mm

– MDX Magnetic Transducer

- electrical specifications

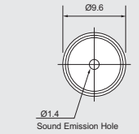
Model		MDX01C
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	80
Coil Resistance	(Ω)	5.5 ± 1
Min. Sound Output	(dBA)	80 at 10cm
Frequency	(Hz)	3100
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- Frequency Response

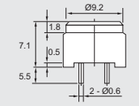


- dimensions

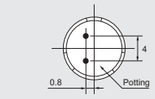
Top View



Side View



Bottom View



all dimensions are in mm

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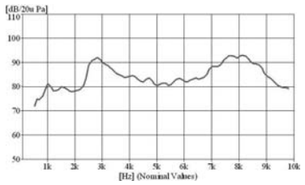
– RDT102 Magnetic Transducer

- electrical specifications

Model		RDT1023A
Operating Voltage	(V)	2 ~ 5
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	100
Coil Resistance	(Ω)	16 ± 2.4
Min. Sound Output	(dBA)	88 at 10cm
Frequency	(Hz)	2670
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	0.38

- Frequency Response



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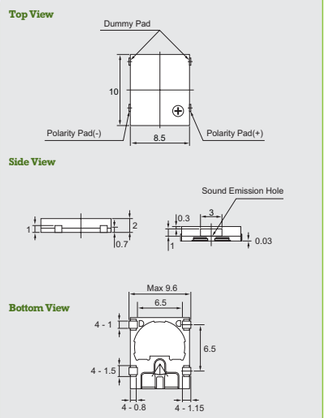


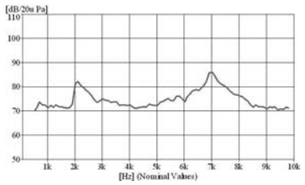
all dimensions are in mm

– DB107 Magnetic Transducer

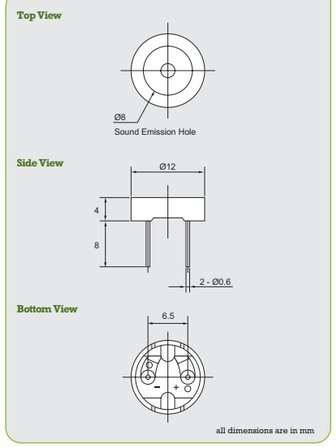
- electrical specifications

Model		DB107
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	30
Coil Resistance	(Ω)	16 ± 4
Min. Sound Output	(dBA)	75 at 10cm
Frequency	(Hz)	2400
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions



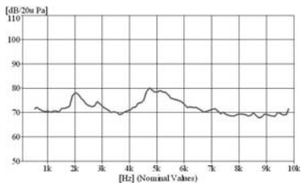
all dimensions are in mm

– DB105 Magnetic Transducer

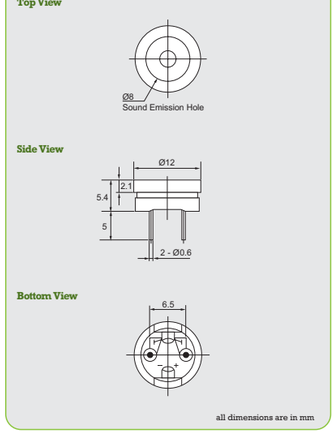
- electrical specifications

Model		DB105
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	10
Coil Resistance	(Ω)	50 ± 7.5
Min. Sound Output	(dBA)	70 at 10cm
Frequency	(Hz)	2048
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions



all dimensions are in mm

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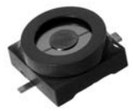
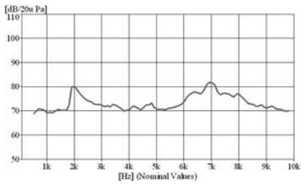
– DB102 Magnetic Transducer



- electrical specifications

Model		DB102G
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	30
Coil Resistance	(Ω)	15 ± 7.5
Min. Sound Output	(dBA)	75 at 10cm
Frequency	(Hz)	2048
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

- Frequency Response



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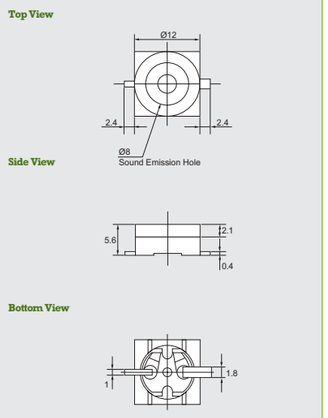


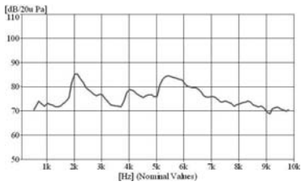
all dimensions are in mm

– DB106 Magnetic Transducer

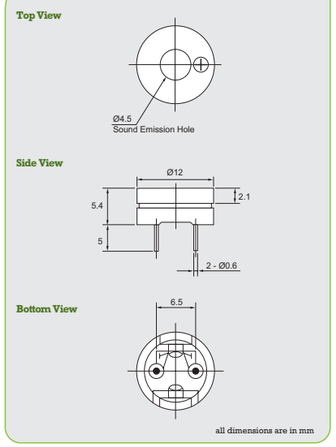
- electrical specifications

Model		DB106C
Operating Voltage	(V)	1 ~ 4
Rated Voltage	(V)	3.6
Max. Rated Current	(mA)	40
Coil Resistance	(Ω)	42 ± 5
Min. Sound Output	(dBA)	70 at 10cm
Frequency	(Hz)	1980
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions



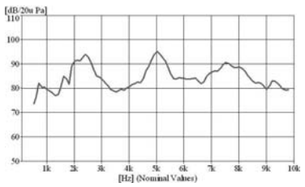
all dimensions are in mm

– PDX07 Magnetic Transducer

- electrical specifications

Model		PDX07B
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	70
Coil Resistance	(Ω)	5 ± 1
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2700
Operating Temperature	(°C)	-25 ~ +70
Weight	(g)	2

- Frequency Response



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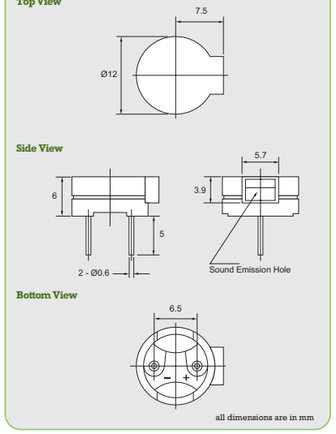

all dimensions are in mm

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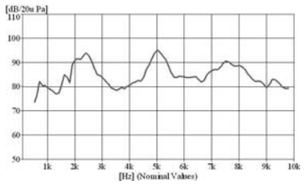
– PDX04 Magnetic Transducer

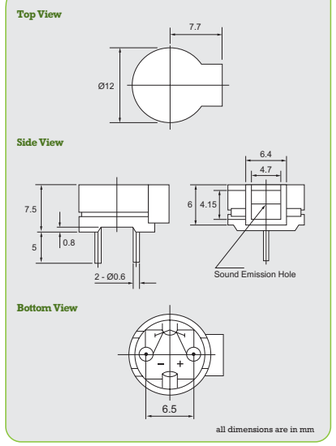
- electrical specifications

Model		PDX04A
Operating Voltage	(V)	1 ~ 3
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	80
Coil Resistance	(Ω)	6.5 ± 1
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2048
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

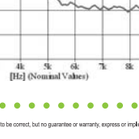
- Frequency Response



- dimensions



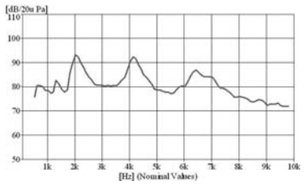
– DB111 Magnetic Transducer



- electrical specifications

Model		DB111
Operating Voltage	(V)	1 ~ 5
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	15
Coil Resistance	(Ω)	42 ± 5
Min. Sound Output	(dBA)	80 at 10cm
Frequency	(Hz)	2048
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions

– DBX Magnetic Transducer

- electrical specifications

Model		DBX05	DBX12
Operating Voltage	(V)	3 ~ 8	6 ~ 15
Rated Voltage	(V)	5	12
Max. Rated Current	(mA)	40	40
Coil Resistance	(Ω)	47 ± 5	140 ± 14
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2400	2400
Operating Temperature	(°C)	-40 ~ +85	-20 ~ +70
Weight	(g)	2	2

- Frequency Response

- dimensions

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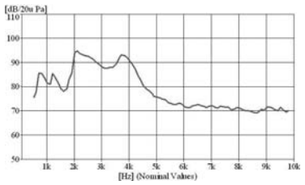
– ZDX Magnetic Transducer

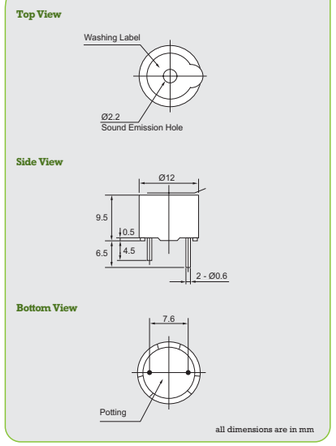
- electrical specifications

Model		ZDX06
Operating Voltage	(V)	4 ~ 8
Rated Voltage	(V)	6
Max. Rated Current	(mA)	40
Coil Resistance	(Ω)	50 ± 5
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2200
Operating Temperature	(°C)	-40 ~ +85
Weight	(g)	2

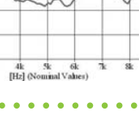
- Frequency Response



- dimensions



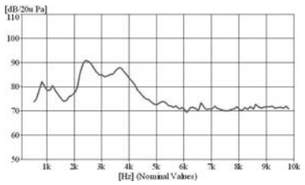
– HDX Magnetic Transducer



- electrical specifications

Model		HDX05
Operating Voltage	(V)	3 ~ 8
Rated Voltage	(V)	5
Max. Rated Current	(mA)	50
Coil Resistance	(Ω)	40 ± 5
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2400
Operating Temperature	(°C)	-40 ~ +85
Weight	(g)	2

- Frequency Response



- dimensions

– DB113 Magnetic Transducer

- electrical specifications

Model		DB113
Operating Voltage	(V)	1 ~ 2
Rated Voltage	(V)	1.5
Max. Rated Current	(mA)	30
Coil Resistance	(Ω)	16 ± 4.5
Min. Sound Output	(dBA)	80 at 10cm
Frequency	(Hz)	2048
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response

- dimensions

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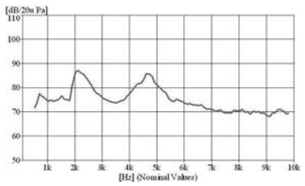
– SCDX Magnetic Transducer

- electrical specifications

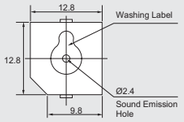
Model		SCDX05A	SCDX12
Operating Voltage	(V)	4 ~ 8	8 ~ 16
Rated Voltage	(V)	5	12
Max. Rated Current	(mA)	40	45
Coil Resistance	(Ω)	47 ± 5	140 ± 14
Min. Sound Output	(dBA)	87 at 10cm	87 at 10cm
Frequency	(Hz)	2048	2400
Operating Temperature	(°C)	-30 ~ +70	-30 ~ +70
Weight	(g)	2	2

- Frequency Response

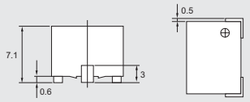


- dimensions

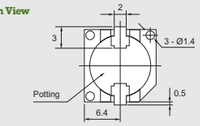
Top View



Side View

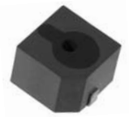


Bottom View



all dimensions are in mm

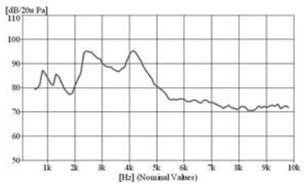
– SDBX Magnetic Transducer



- electrical specifications

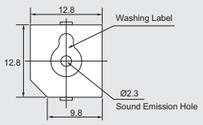
Model		SDBX05	SDBX12
Operating Voltage	(V)	4 ~ 8	8 ~ 16
Rated Voltage	(V)	5	12
Max. Rated Current	(mA)	40	40
Coil Resistance	(Ω)	47 ± 5	140 ± 14
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2400	2400
Operating Temperature	(°C)	-40 ~ +85	-40 ~ +85
Weight	(g)	2	2

- Frequency Response

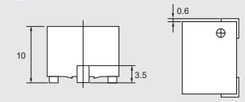


- dimensions

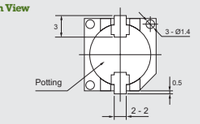
Top View



Side View



Bottom View



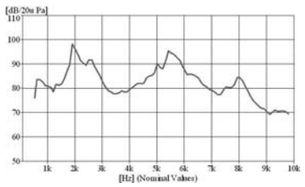
all dimensions are in mm

– DB108 Magnetic Transducer

- electrical specifications

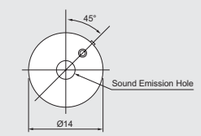
Model		DB108
Operating Voltage	(V)	1 ~ 4
Rated Voltage	(V)	3
Max. Rated Current	(mA)	35
Coil Resistance	(Ω)	15 ± 6
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2000
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response

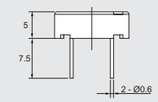


- dimensions

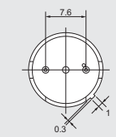
Top View



Side View



Bottom View



all dimensions are in mm

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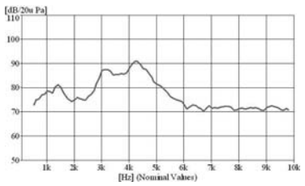
– RDT143A Magnetic Transducer

- electrical specifications

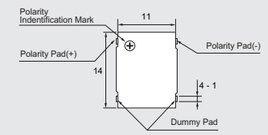
Model		RDT143A5B
Operating Voltage	(V)	4 ~ 6
Rated Voltage	(V)	5
Max. Rated Current	(mA)	70
Coil Resistance	(Ω)	43 ± 3
Min. Sound Output	(dBA)	87 at 10cm
Frequency	(Hz)	2730
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response

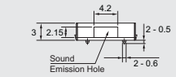


- dimensions

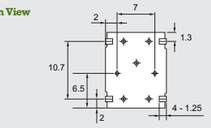
Top View



Side View



Bottom View



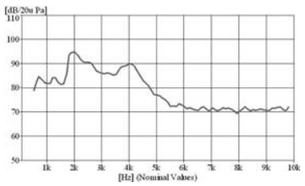
all dimensions are in mm

– GDX Magnetic Transducer

- electrical specifications

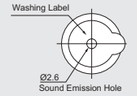
Model		GDX05	GDX12
Operating Voltage	(V)	3 ~ 12	6 ~ 18
Rated Voltage	(V)	5	12
Max. Rated Current	(mA)	55	50
Coil Resistance	(Ω)	28 ± 3	135 ± 20
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2048	2048
Operating Temperature	(°C)	-20 ~ +70	-40 ~ +90
Weight	(g)	4	4

- Frequency Response

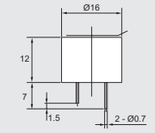


- dimensions

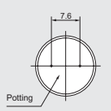
Top View



Side View



Bottom View



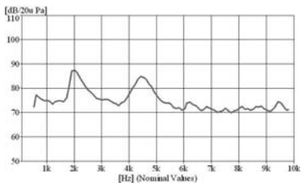
all dimensions are in mm

– DB Magnetic Transducer

- electrical specifications

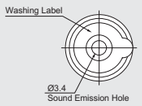
Model		DB06	DB12
Operating Voltage	(V)	3 ~ 12	6 ~ 18
Rated Voltage	(V)	6	12
Max. Rated Current	(mA)	40	40
Coil Resistance	(Ω)	50 ± 5	115 ± 12
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2048	2048
Operating Temperature	(°C)	-25 ~ +70	-25 ~ +70
Weight	(g)	7	7

- Frequency Response

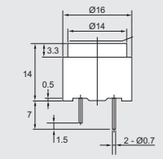


- dimensions

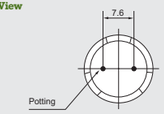
Top View



Side View



Bottom View



all dimensions are in mm

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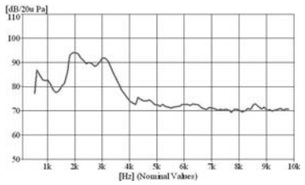
– RDX Magnetic Transducer

- electrical specifications

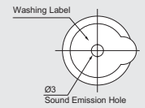
Model		RDX06	RDX12
Operating Voltage	(V)	3 ~ 12	8 ~ 16
Rated Voltage	(V)	6	12
Max. Rated Current	(mA)	40	40
Coil Resistance	(Ω)	45 ± 7	115 ± 17
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2048	2048
Operating Temperature	(°C)	-20 ~ +60	-30 ~ +80
Weight	(g)	7	7

- Frequency Response

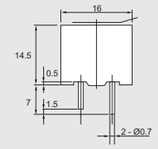


- dimensions

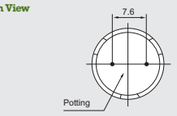
Top View



Side View



Bottom View



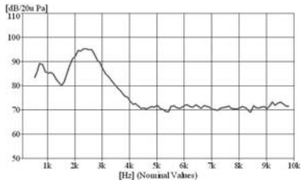
all dimensions are in mm

– SDX Magnetic Transducer

- electrical specifications

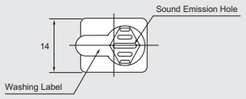
Model		SDX06	SDX12
Operating Voltage	(V)	3 ~ 10	5 ~ 15
Rated Voltage	(V)	6	12
Max. Rated Current	(mA)	40	40
Coil Resistance	(Ω)	60 ± 9	120 ± 18
Min. Sound Output	(dBA)	90 at 10cm	85 at 10cm
Frequency	(Hz)	2048	2048
Operating Temperature	(°C)	-30 ~ +85	-30 ~ +85
Weight	(g)	7	7

- Frequency Response

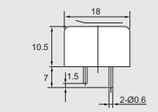


- dimensions

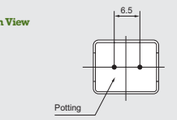
Top View



Side View



Bottom View



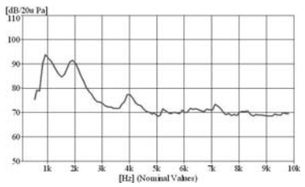
all dimensions are in mm

– TDX Magnetic Transducer

- electrical specifications

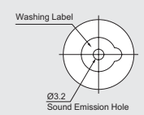
Model		TDX06
Operating Voltage	(V)	3 ~ 5
Rated Voltage	(V)	5
Max. Rated Current	(mA)	80
Coil Resistance	(Ω)	27 ± 4
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	730
Operating Temperature	(°C)	-40 ~ +85
Weight	(g)	10

- Frequency Response

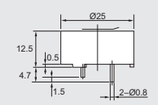


- dimensions

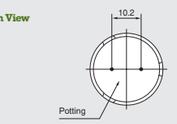
Top View



Side View



Bottom View



all dimensions are in mm

The information contained herein is believed to be correct, but no guarantee or warranty, express or implied,with respect to accuracy, completeness or results is extended and no liability is assumed. DB Products Ltd. reserves the right to make changes in any specification, data or material contained herein.

02. Transducer

– External Drive Piezo Transducer

DB Products Limited

External Drive Piezo Transducer

DB Series	Model	Diameter (Ømm)	Height (mm)	Min. Sound Output (dBA)	Capacitance (pF)	Page No.
DB-E1828	182PZ09290	9	8	75 min. (10V p-p / Square Wave / 10cm / 2900Hz)	5600 ± 30% at 1000Hz	022
DB-E1858	185PZ10320	10	3.2	80 min. (10V p-p / Square Wave / 10cm / 3200Hz)	11000 ± 30% at 120Hz	022
DB-E1998	199PZ11410	11 x 9	1.7	70 min. (5V p-p / Square Wave / 10cm / 4100Hz)	10000 ± 30% at 1000Hz	022
DB-E2098	209PZ11410	11 x 9	1.7	75 min. (5V p-p / Square Wave / 10cm / 4100Hz)	12000 ± 30% at 120Hz	023
DB-E1178	117PZ13400	12	8.3	70 min. (3V p-p / Square Wave / 10cm / 4000Hz)	14000 ± 30% at 120Hz	023
DB-E1478	147PZ12450	12	7.5	80 min. (12V p-p / Square Wave / 10cm / 4500Hz)	6000 ± 30% at 120Hz	023
DB-E1898	189PZ12400	12 x 12	3	70 min. (3V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	024
DB-E1108	110PZ13400	12.6	6.3	80 min. (5V p-p / Square Wave / 10cm / 4000Hz)	14000 ± 30% at 120Hz	024
DB-E1678	167PZ13400	12.8	6.3	75 min. (3V rms / Sine Wave / 10cm / 4000Hz)	12000 ± 30% at 1000Hz	024
DB-E1778	177PZ13480	13	2.5	80 min. (10V p-p / Square Wave / 10cm / 4800 Hz)	15000 ± 30% at 120Hz	025
DB-E1548	154PZ14480	13.6	4.15	80 min. (5V p-p / Square Wave / 10cm / 4800Hz)	12000 ± 30% at 120Hz	025
DB-E658	65PZ14400	14	6.7	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)	13000 ± 30% at 120Hz	025
DB-E1648	164PZ14400	14	5.6	75 min. (3V rms / Sine Wave / 10cm / 4000Hz)	18000 ± 30% at 1000Hz	026
DB-E1768	176PZ14480	14	4	80 min. (10V p-p / Square Wave / 10cm / 4800Hz)	15000 ± 30% at 120Hz	026
DB-E2068	206PZ14400	14	8	85 min. (10V p-p / Square Wave / 10cm / 4000Hz) 75 min. (10V p-p / Square Wave / 10cm / 3600Hz)	13000 ± 30% at 120Hz	026
DB-E1868	186PZ14330	14.3 x 14.3	10.7	80 min. (5V p-p / Square Wave / 10cm / 3300Hz)	15000 ± 30% at 120Hz	027
DB-E1198	119PZ15500	14.8 x 14.8	6.8	85 min. (12V p-p / Square Wave / 10cm / 5000Hz)	12000 ± 30% at 120Hz	027
DB-E2148	214PZ15400	14.1 x 14.1	4	75 min. (5V p-p / Square Wave / 10cm / 4000Hz)	12000 ± 30% at 120Hz	027
DB-E1348	134PZ16400	16 x 16	2.5	73 min. (3V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	028
DB-E538	53PZ17400	16.5	6.7	75 min. (3V p-p / Square Wave / 10cm / 4000Hz)	10000 ± 30% at 1000Hz	028
DB-E678	67PZ17400	16.5	4	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)	9500 ± 30% at 120Hz	028
DB-E478	47PZ17400	16.8	7.2	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)	10500 ± 30% at 120Hz	029
DB-E1208	120PZ17280	16.8	7	80 min. (3V rms / Sine Wave / 10cm / 2800Hz)	23000 ± 30% at 1000Hz	029
DB-E1058	105PZ17400	17	5.2	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)	6500 ± 30% at 120Hz	029
DB-E1758	175PZ17200	17	8.6	78 min. (9V p-p / Square Wave / 10cm / 2000Hz)	25000 ± 30% at 120Hz	030
DB-E1878	187PZ17400	17	6	90 min. (12V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	030
DB-E1098	109PZ18400	17.5	7.6	85 min. (3V rms / Sine Wave / 10cm / 4000Hz)	12000 ± 30% at 120Hz	030
DB-E2088	208PZ18200	18.4	7.3	75 min. (3.6V p-p / Square Wave / 10cm / 2000Hz)	34000 ± 30% at 120Hz	031
DB-E2008	200PZ17220	20 x 16.9	7	80 min. (9V p-p / Square Wave / 10cm / 2200Hz)	22000 ± 30% at 120Hz	031
DB-E1068	106PZ21400	21	9.2	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)	9000 ± 30% at 1000Hz	031
DB-E608	60PZ22400	22	7	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	032
DB-E698	69PZ22400	22	7	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)	15000 ± 30% at 1000Hz	032
DB-E1318	131PZ22400	22	10.8	85 min. (3V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 1000Hz	032
DB-E2038	203PZ22250	22	5.6	80 min. (10V p-p / Square Wave / 10cm / 2500Hz)	25000 ± 30% at 120Hz	033
DB-E1888	188PZ22400	22.1	7	90 min. (12V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	033
DB-E1078	107PZ23204	22.5	9	80 min. (10V p-p / Square Wave / 10cm / 2048Hz)	24000 ± 30% at 120Hz	033
DB-E508	50PZ23400	23	5	80 min. (12V p-p / Square Wave / 30cm / 4000Hz)	24000 ± 30% at 120Hz	034
DB-E518	51PZ23500	23	4.3	70 min. (12V p-p / Square Wave / 30cm / 5000Hz)	15000 ± 30% at 120Hz	034
DB-E2048	204PZ23480	23	9.8	85 min. (12V p-p / Square Wave / 10cm / 4800Hz)	15000 ± 30% at 120Hz	034
DB-E338	33PZ24400	24	7.5	85 min. (9V p-p / Square Wave / 10cm / 4000Hz)	17000 ± 30% at 120Hz	035
DB-E598	59PZ24409	24	5.5	75 min. (3V p-p / Square Wave / 10cm / 4096Hz)	10000 ± 30% at 1000Hz	035
DB-E1238	123PZ24550	24	4	90 min. (15V p-p / Square Wave / 10cm / 5500Hz)	18000 ± 30% at 120Hz	035
DB-E1918	191PZ24320	25 x 24	10	88 min. (10V p-p / Square Wave / 10cm / 3200Hz)	17000 ± 30% at 120Hz	036
DB-E2028	202PZ24600	24	6.7	86 min. (5V p-p / Square Wave / 10cm / 6000Hz)	12000 ± 30% at 120Hz	036
DB-E1398	139PZ25200	25	2.5	70 min. (3V rms / Sine Wave / 10cm / 2000Hz)	45000 ± 30% at 120Hz	036
DB-E788	78PZ22400	26.5 x 22	7	80 min. (3V p-p / Square Wave / 10cm / 4000Hz)	15000 ± 30% at 120Hz	037

External Drive Piezo Transducer

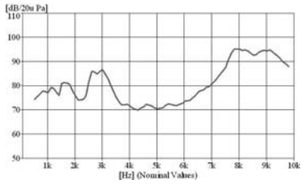
DB Series	Model	Diameter (Ømm)	Height (mm)	Min. Sound Output (dBA)	Capacitance (pF)	Page No.
DB-E1588	158PZ27410	27.6	2.8	85 min. (9V p-p / Square Wave / 10cm / 4100Hz)	35000 ± 30% at 1000Hz	037
DB-E1618	161PZ28420	27.6	2.1	85 min. (9V p-p / Square Wave / 10cm / 4200Hz)	35000 ± 30% at 1000Hz	037
DB-E1448	144PZ29300	28.5	2.5	80 min. (9V p-p / Square Wave / 10cm / 3000Hz)	24000 ± 30% at 1000Hz	038
DB-E398	39PZ30350	30	5.5	75 min. (3V p-p / Square Wave / 10cm / 3500Hz)	25000 ± 30% at 120Hz	038
DB-E548	54PZ30250	30	10	90 min. (3V rms / Sine Wave / 10cm / 2500Hz)	25000 ± 30% at 1000Hz	038
DB-E558	55PZ30400	30	5.5	85 min. (3V rms / Sine Wave / 10cm / 4000Hz)	25000 ± 30% at 1000Hz	039
DB-E2178	217PZ30460	30	7.5	85 min. (5V p-p / Square Wave / 10cm / 4600Hz)	30000 ± 30% at 120Hz	039
DB-E708	70PZ30400	30.2	8	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)	25000 ± 30% at 120Hz	039
DB-E1158	115PZ34120	34.2	8.5	80 min. (9V p-p / Square Wave / 30cm / 1200Hz)	45000 ± 30% at 120Hz	040
DB-E528	52PZ35130	34.5	2	80 min. (30V p-p / Square Wave / 10cm / 1300Hz)	45000 ± 30% at 120Hz	040
DB-E588	58PZ34120	34.5	9	70 min. (3V rms / Sine Wave / 10cm / 1200Hz)	50000 ± 30% at 120Hz	040
DB-E2168	216PZ46320	45	13.7	100 min. (12V rms / Sine Wave / 30cm / 3200Hz)	25000 ± 30% at 120Hz	041
DB-E1718	171PZ41350	41	14.4	95 min. (2.83V rms / Sine Wave / 30cm / 35000Hz)	–	041
DB-E1538	153PZ42280	41.8	16	90 min. (12V p-p / Square Wave / 30cm / 2800Hz)	35000 ± 30% at 120Hz	041
DB-E568	56PZ44100	44	16.5	70 min. (3V rms / Sine Wave / 10cm / 1000Hz)	80000 ± 30% at 120Hz	042
DB-E498	49PZ50100B	50	2.2	75 min. (12V p-p / Square Wave / 10cm / 1000Hz)	120000 ± 30% at 120Hz	042
DB-E1738	173PZ50200	50	2.2	500 ~ 20000 (3V p-p / Square Wave / 30cm)	120000 ± 30% at 120Hz	042

– DB-E1828 External Drive Piezo Transducer

- electrical specifications

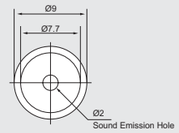
Model		182PZ09290
Min. Sound Output	(dBA)	75 min. (10V p-p / Square Wave / 10cm / 2900Hz)
Capacitance	(pF)	5600 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	0.5

- Frequency Response

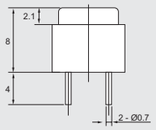


- dimensions

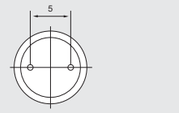
Top View



Side View



Bottom View



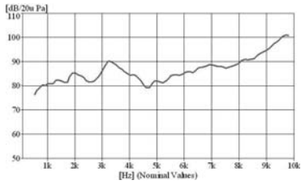
all dimensions are in mm

– DB-E1858 External Drive Piezo Transducer

- electrical specifications

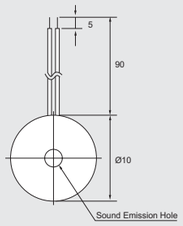
Model		185PZ10320
Min. Sound Output	(dBA)	80 min. (10V p-p / Square Wave / 10cm / 3200Hz)
Capacitance	(pF)	11000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response



- dimensions

Top View



Side View

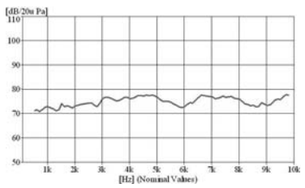
all dimensions are in mm

– DB-E1998 External Drive Piezo Transducer

- electrical specifications

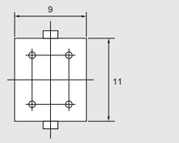
Model		199PZ11410
Min. Sound Output	(dBA)	70 min. (5V p-p / Square Wave / 10cm / 4100Hz)
Capacitance	(pF)	10000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1.6

- Frequency Response

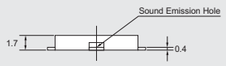


- dimensions

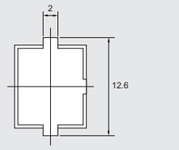
Top View



Side View



Bottom View



all dimensions are in mm

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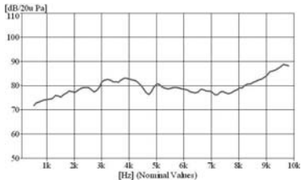
– DB-E2098 External Drive Piezo Transducer

- electrical specifications

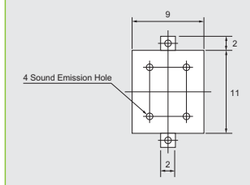
Model		209PZ11410
Min. Sound Output	(dBA)	75 min. (5V p-p / Square Wave / 10cm / 4100Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	0.25

- Frequency Response



- dimensions

Top View



Side View

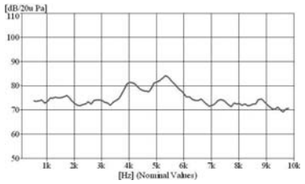
all dimensions are in mm

– DB-E1178 External Drive Piezo Transducer

- electrical specifications

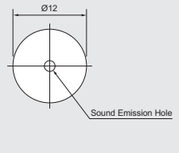
Model		117PZ13400
Min. Sound Output	(dBA)	70 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	14000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

- Frequency Response

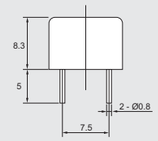


- dimensions

Top View



Side View



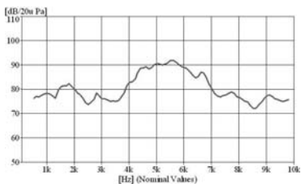
all dimensions are in mm

– DB-E1478 External Drive Piezo Transducer

- electrical specifications

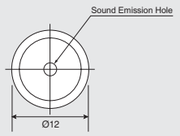
Model		147PZ12450
Min. Sound Output	(dBA)	80 min. (12V p-p / Square Wave / 10cm / 4500Hz)
Capacitance	(pF)	6000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +80
Weight	(g)	2

- Frequency Response

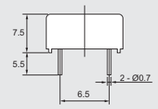


- dimensions

Top View



Side View



all dimensions are in mm

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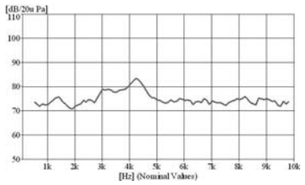
– DB-E1898 External Drive Piezo Transducer

- electrical specifications

Model		189PZ12400
Min. Sound Output	(dBA)	70 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response



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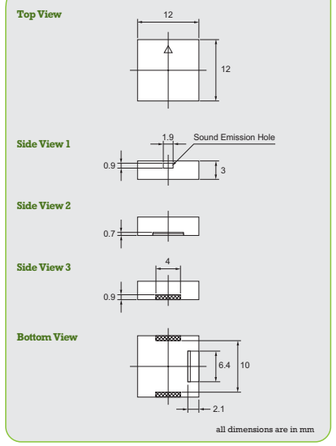


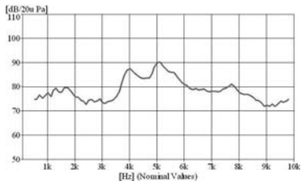
all dimensions are in mm

– DB-E1108 External Drive Piezo Transducer

- electrical specifications

Model		110PZ13400
Min. Sound Output	(dBA)	80 min. (5V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	14000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



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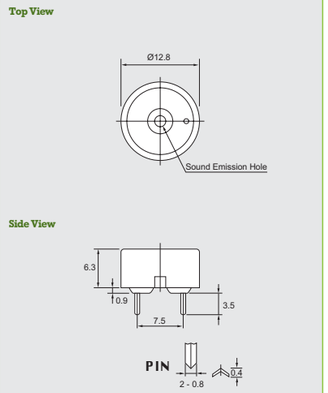


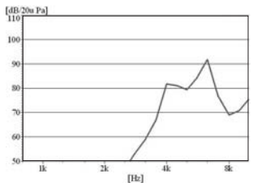
all dimensions are in mm

– DB-E1678 External Drive Piezo Transducer

- electrical specifications

Model		167PZ13400
Min. Sound Output	(dBA)	75 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	12000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	0.65

- Frequency Response



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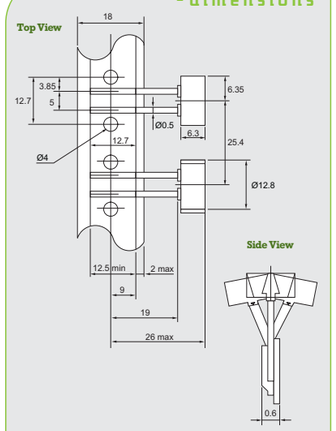

all dimensions are in mm

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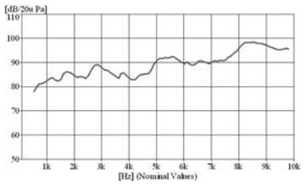
– DB-E1778 External Drive Piezo Transducer

- electrical specifications

Model		177PZ13480
Min. Sound Output	(dBA)	80 min. (10V p-p / Square Wave / 10cm / 4800Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response



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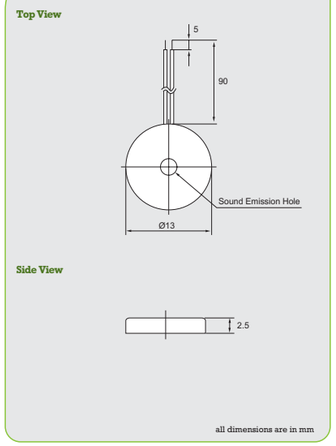


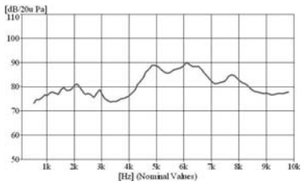
all dimensions are in mm

– DB-E1548 External Drive Piezo Transducer

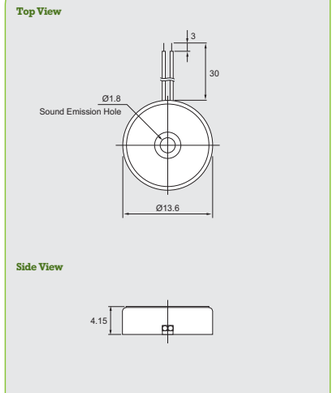
- electrical specifications

Model		154PZ14480
Min. Sound Output	(dBA)	80 min. (5V p-p / Square Wave / 10cm / 4800Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- Frequency Response



- dimensions



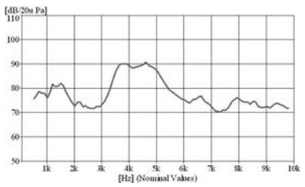
all dimensions are in mm

– DB-E658 External Drive Piezo Transducer

- electrical specifications

Model		65PZ14400
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	13000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	20
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response



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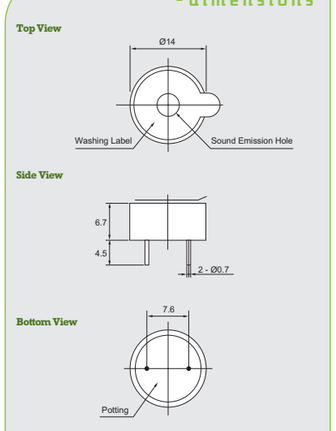

all dimensions are in mm

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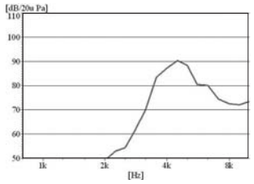
– DB-E1648 External Drive Piezo Transducer

- electrical specifications

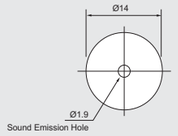
Model		164PZ14400
Min. Sound Output	(dBA)	75 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	18000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1.5

- Frequency Response

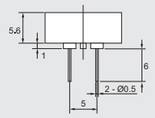


- dimensions

Top View



Side View



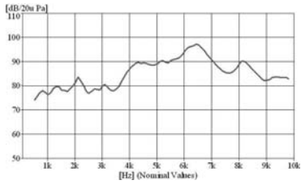
all dimensions are in mm

– DB-E1768 External Drive Piezo Transducer

- electrical specifications

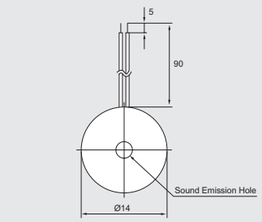
Model		176PZ14480
Min. Sound Output	(dBA)	80 min. (10V p-p / Square Wave / 10cm / 4800Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response

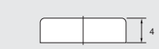


- dimensions

Top View



Side View



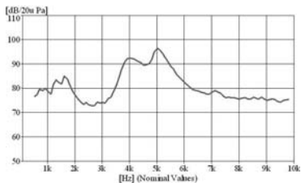
all dimensions are in mm

– DB-E2068 External Drive Piezo Transducer

- electrical specifications

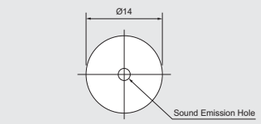
Model		206PZ14400
Min. Sound Output	(dBA)	85 min. (10V p-p / Square Wave / 10cm / 4000Hz) 75 min. (10V p-p / Square Wave / 10cm / 3600Hz)
Capacitance	(pF)	13000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

- Frequency Response

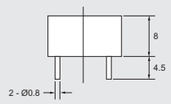


- dimensions

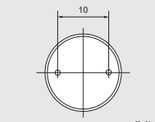
Top View



Side View



Bottom View



all dimensions are in mm

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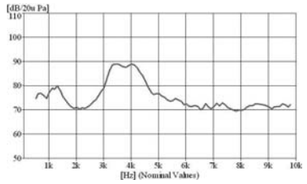
– DB-E1868 External Drive Piezo Transducer

- electrical specifications

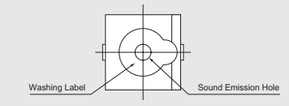
Model		186PZ14330
Min. Sound Output	(dBA)	80 min. (5V p-p / Square Wave / 10cm / 3300Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	20
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2.3

- Frequency Response

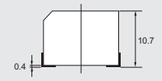


- dimensions

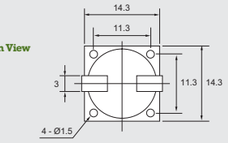
Top View



Side View



Bottom View



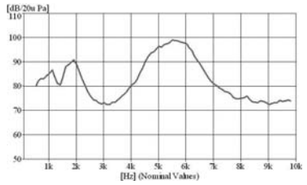
all dimensions are in mm

– DB-E1198 External Drive Piezo Transducer

- electrical specifications

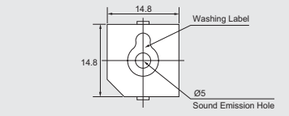
Model		119PZ15500
Min. Sound Output	(dBA)	85 min. (12V p-p / Square Wave / 10cm / 5000Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

- Frequency Response

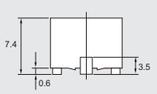


- dimensions

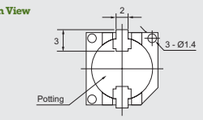
Top View



Side View



Bottom View



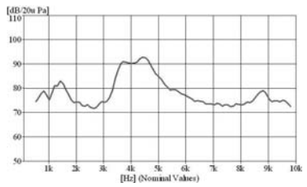
all dimensions are in mm

– DB-E2148 External Drive Piezo Transducer

- electrical specifications

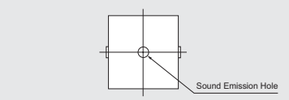
Model		214PZ15400
Min. Sound Output	(dBA)	75 min. (5V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	20
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	0.8

- Frequency Response

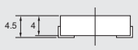


- dimensions

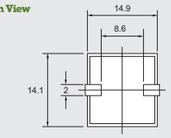
Top View



Side View



Bottom View



all dimensions are in mm

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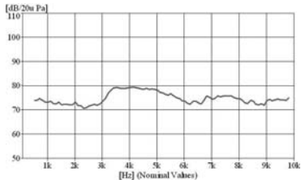
– DB-E1348 External Drive Piezo Transducer

- electrical specifications

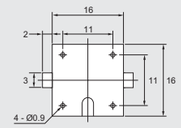
Model		134PZ16400
Min. Sound Output	(dBA)	73 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response

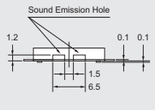


- dimensions

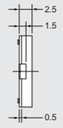
Top View



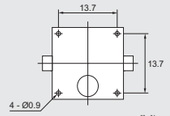
Side View 1



Side View 2



Bottom View



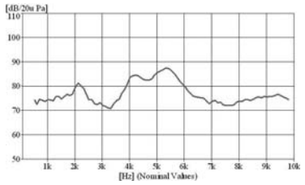
all dimensions are in mm

– DB-E538 External Drive Piezo Transducer

- electrical specifications

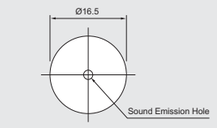
Model		53PZ17400
Min. Sound Output	(dBA)	75 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	10000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	5

- Frequency Response



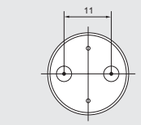
- dimensions

Top View



Side View

Bottom View



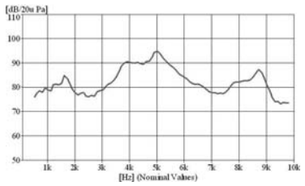
all dimensions are in mm

– DB-E678 External Drive Piezo Transducer

- electrical specifications

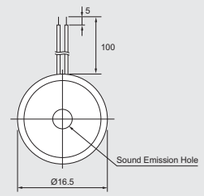
Model		67PZ17400
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	9500 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- Frequency Response

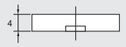


- dimensions

Top View



Side View



all dimensions are in mm

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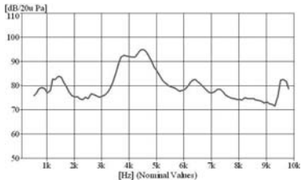
– DB-E478 External Drive Piezo Transducer

- electrical specifications

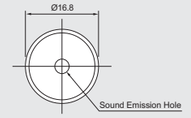
Model		47PZ17400
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	10500 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	3

- Frequency Response

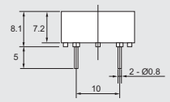


- dimensions

Top View



Side View



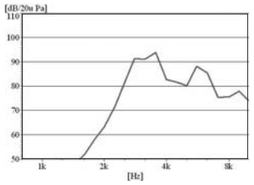
all dimensions are in mm

– DB-E1208 External Drive Piezo Transducer

- electrical specifications

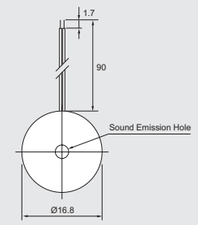
Model		120PZ17280
Min. Sound Output	(dBA)	80 min. (3V rms / Sine Wave / 10cm / 2800Hz)
Capacitance	(pF)	23000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response

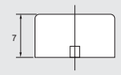


- dimensions

Top View



Side View



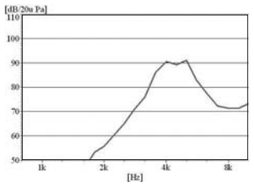
all dimensions are in mm

– DB-E1058 External Drive Piezo Transducer

- electrical specifications

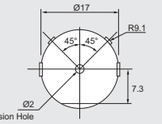
Model		105PZ17400
Min. Sound Output	(dBA)	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	6500 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	3

- Frequency Response

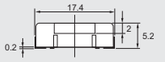


- dimensions

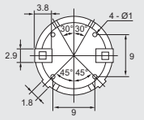
Top View



Side View



Bottom View



all dimensions are in mm

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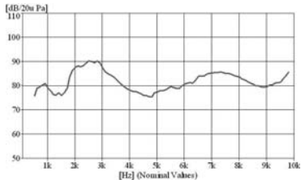
– DB-E1758 External Drive Piezo Transducer

- electrical specifications

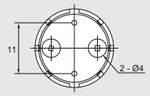
Model		175PZ17200
Min. Sound Output	(dBA)	78 min. (9V p-p / Square Wave / 10cm / 2000Hz)
Capacitance	(pF)	25000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- Frequency Response

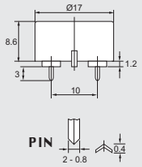


- dimensions

Top View



Side View



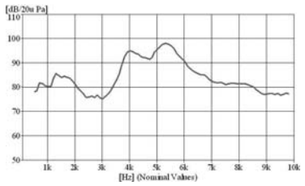
all dimensions are in mm

– DB-E1878 External Drive Piezo Transducer

- electrical specifications

Model		187PZ17400
Min. Sound Output	(dBA)	90 min. (12V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +75
Weight	(g)	2

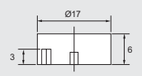
- Frequency Response



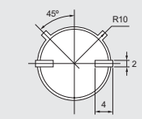
- dimensions

Top View

Side View



Bottom View



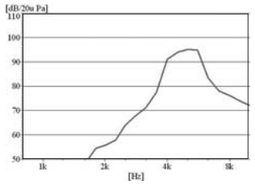
all dimensions are in mm

– DB-E1098 External Drive Piezo Transducer

- electrical specifications

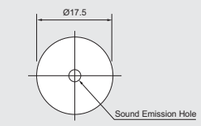
Model		109PZ18400
Min. Sound Output	(dBA)	85 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response

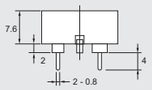


- dimensions

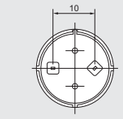
Top View



Side View



Bottom View



all dimensions are in mm

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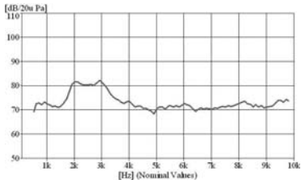
– DB-E2088 External Drive Piezo Transducer

- electrical specifications

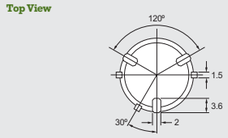
Model		208PZ18200
Min. Sound Output	(dBA)	75 min. (3.6V p-p / Square Wave / 10cm / 2000Hz)
Capacitance	(pF)	34000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	25
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

- Frequency Response

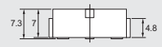


- dimensions

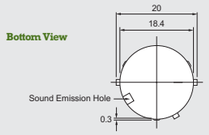
Top View



Side View



Bottom View



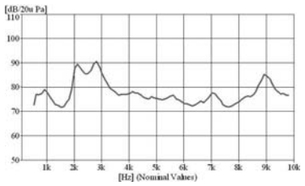
all dimensions are in mm

– DB-E2008 External Drive Piezo Transducer

- electrical specifications

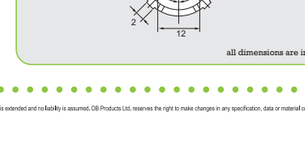
Model		200PZ17220
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 2200Hz)
Capacitance	(pF)	22000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-30 ~ +80
Weight	(g)	3

- Frequency Response

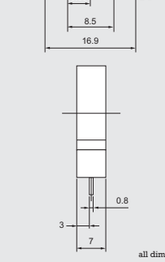


- dimensions

Top View



Side View



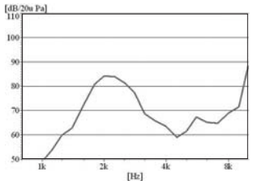
all dimensions are in mm

– DB-E1068 External Drive Piezo Transducer

- electrical specifications

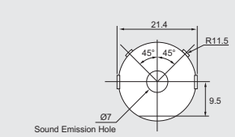
Model		106PZ21400
Min. Sound Output	(dBA)	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	9000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	3

- Frequency Response

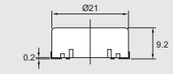


- dimensions

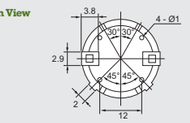
Top View



Side View



Bottom View



all dimensions are in mm

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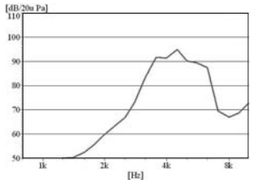
– DB-E608 External Drive Piezo Transducer

- electrical specifications

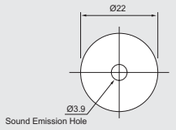
Model		60PZ22400
Min. Sound Output	(dBA)	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	1

- Frequency Response

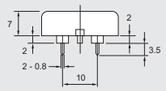


- dimensions

Top View



Side View



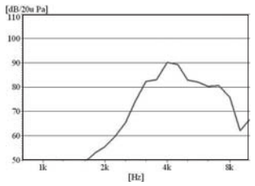
all dimensions are in mm

– DB-E698 External Drive Piezo Transducer

- electrical specifications

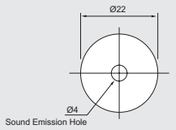
Model		69PZ22400
Min. Sound Output	(dBA)	80 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- Frequency Response

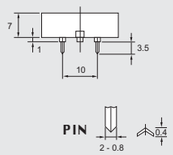


- dimensions

Top View



Side View



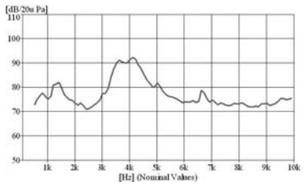
all dimensions are in mm

– DB-E1318 External Drive Piezo Transducer

- electrical specifications

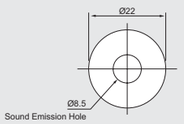
Model		131PZ22400
Min. Sound Output	(dBA)	85 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-40 ~ +85
Weight	(g)	3.2

- Frequency Response

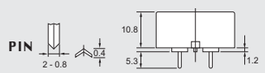


- dimensions

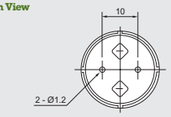
Top View



Side View



Bottom View



all dimensions are in mm

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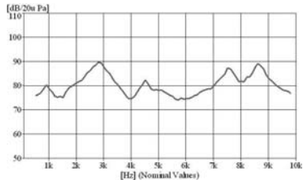
– DB-E2038 External Drive Piezo Transducer

- electrical specifications

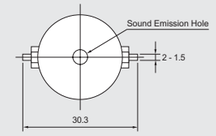
Model		203PZ22250
Min. Sound Output	(dBA)	80 min. (10V p-p / Square Wave / 10cm / 2500Hz)
Capacitance	(pF)	25000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-30 ~ +85
Weight	(g)	2

- Frequency Response

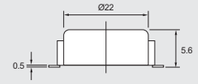


- dimensions

Top View



Side View



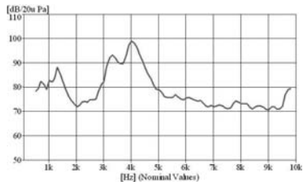
all dimensions are in mm

– DB-E1888 External Drive Piezo Transducer

- electrical specifications

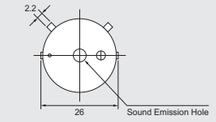
Model		188PZ22400
Min. Sound Output	(dBA)	90 min. (12V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2.8

- Frequency Response

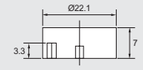


- dimensions

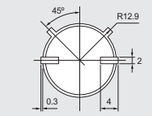
Top View



Side View



Bottom View



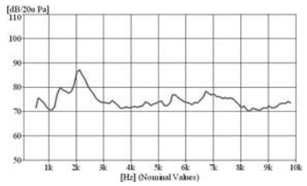
all dimensions are in mm

– DB-E1078 External Drive Piezo Transducer

- electrical specifications

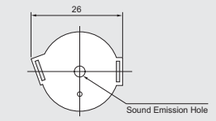
Model		107PZ23204
Min. Sound Output	(dBA)	80 min. (10V p-p / Square Wave / 10cm / 2048Hz)
Capacitance	(pF)	24000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +80
Weight	(g)	2

- Frequency Response

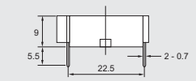


- dimensions

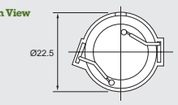
Top View



Side View



Bottom View



all dimensions are in mm

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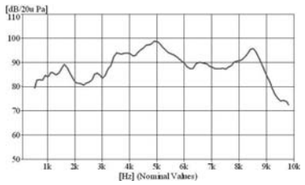
– DB-E508 External Drive Piezo Transducer

- electrical specifications

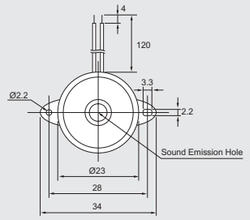
Model		50PZ23400
Min. Sound Output	(dBA)	80 min. (12V p-p / Square Wave / 30cm / 4000Hz)
Capacitance	(pF)	24000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions

Top View



Side View

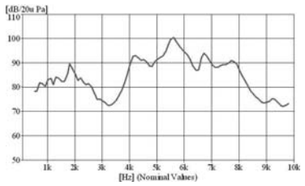
all dimensions are in mm

– DB-E518 External Drive Piezo Transducer

- electrical specifications

Model		51PZ23500
Min. Sound Output	(dBA)	70 min. (12V p-p / Square Wave / 30cm / 5000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

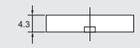
- Frequency Response



- dimensions

Top View

Side View



all dimensions are in mm

– DB-E2048 External Drive Piezo Transducer

- electrical specifications

Model		204PZ23480
Min. Sound Output	(dBA)	85 min. (12V p-p / Square Wave / 10cm / 4800Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3.5

- Frequency Response

- dimensions

Top View

Side View

all dimensions are in mm

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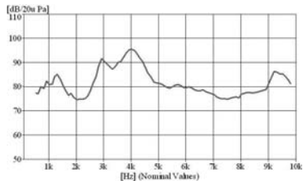
– DB-E338 External Drive Piezo Transducer

- electrical specifications

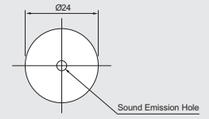
Model		33PZ24400
Min. Sound Output	(dBA)	85 min. (9V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	17000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	60
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- Frequency Response

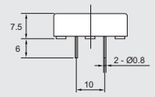


- dimensions

Top View



Side View



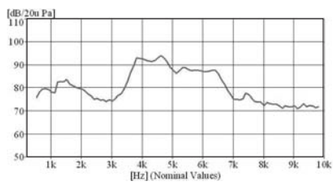
all dimensions are in mm

– DB-E598 External Drive Piezo Transducer

- electrical specifications

Model		59PZ24409
Min. Sound Output	(dBA)	75 min. (3V p-p / Square Wave / 10cm / 4096Hz)
Capacitance	(pF)	10000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

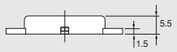
- Frequency Response



- dimensions

Top View

Side View



all dimensions are in mm

– DB-E1238 External Drive Piezo Transducer

- electrical specifications

Model		123PZ24550
Min. Sound Output	(dBA)	90 min. (15V p-p / Square Wave / 10cm / 5500Hz)
Capacitance	(pF)	18000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1.9

- Frequency Response

- dimensions

Top View

Side View

all dimensions are in mm

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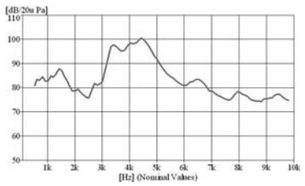
– DB-E1918 External Drive Piezo Transducer

- electrical specifications

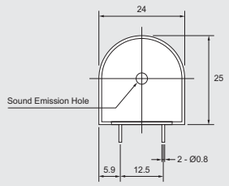
Model		191PZ24320
Min. Sound Output	(dBA)	88 min. (10V p-p / Square Wave / 10cm / 3200Hz)
Capacitance	(pF)	17000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-30 ~ +115
Weight	(g)	3.7

- Frequency Response

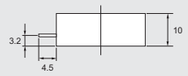


- dimensions

Top View



Side View



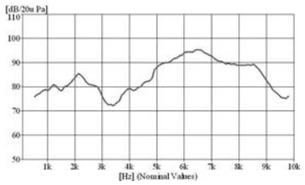
all dimensions are in mm

– DB-E2028 External Drive Piezo Transducer

- electrical specifications

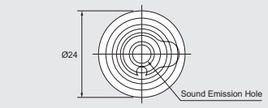
Model		202PZ24600
Min. Sound Output	(dBA)	86 min. (5V p-p / Square Wave / 10cm / 6000Hz)
Capacitance	(pF)	12000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- Frequency Response

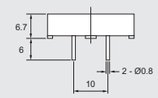


- dimensions

Top View



Side View



Bottom View

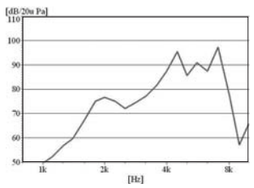
all dimensions are in mm

– DB-E1398 External Drive Piezo Transducer

- electrical specifications

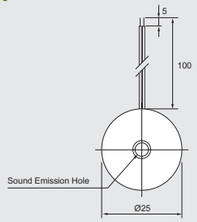
Model		139PZ25200
Min. Sound Output	(dBA)	70 min. (3V rms / Sine Wave / 10cm / 2000Hz)
Capacitance	(pF)	45000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	5

- Frequency Response



- dimensions

Top View



Side View

all dimensions are in mm

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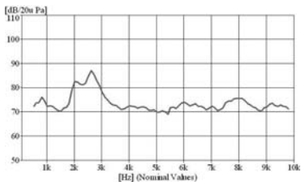
– DB-E788 External Drive Piezo Transducer

- electrical specifications

Model		78PZ22400
Min. Sound Output	(dBA)	80 min. (3V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	15000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2.5

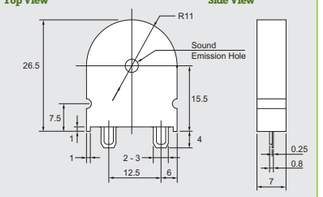
- Frequency Response



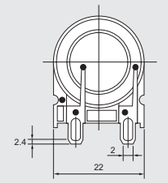
- dimensions

Top View

Side View



Bottom View



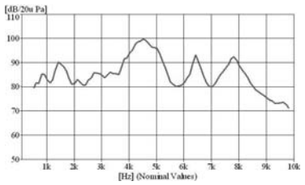
all dimensions are in mm

– DB-E1588 External Drive Piezo Transducer

- electrical specifications

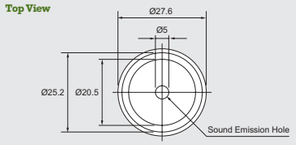
Model		158PZ27410
Min. Sound Output	(dBA)	85 min. (9V p-p / Square Wave / 10cm / 4100Hz)
Capacitance	(pF)	35000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



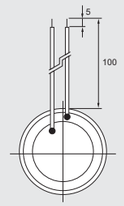
- dimensions

Top View



Side View

Bottom View



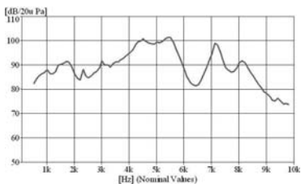
all dimensions are in mm

– DB-E1618 External Drive Piezo Transducer

- electrical specifications

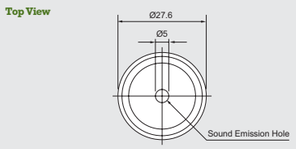
Model		161PZ28420
Min. Sound Output	(dBA)	85 min. (9V p-p / Square Wave / 10cm / 4200Hz)
Capacitance	(pF)	35000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-30 ~ +80
Weight	(g)	2

- Frequency Response



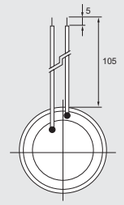
- dimensions

Top View



Side View

Bottom View



all dimensions are in mm

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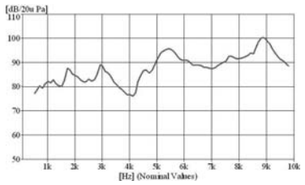
– DB-E1448 External Drive Piezo Transducer

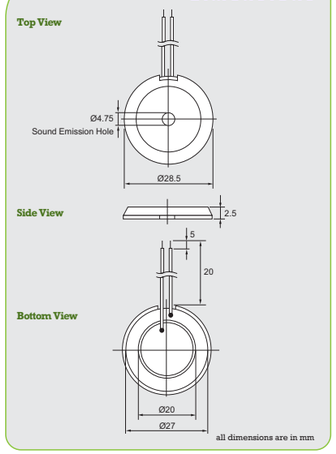
- electrical specifications

Model		144PZ29300
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 3000Hz)
Capacitance	(pF)	24000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2.4

- Frequency Response



- dimensions

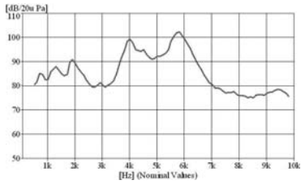


– DB-E398 External Drive Piezo Transducer

- electrical specifications

Model		39PZ30350
Min. Sound Output	(dBA)	75 min. (3V p-p / Square Wave / 10cm / 3500Hz)
Capacitance	(pF)	25000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3.5

- Frequency Response



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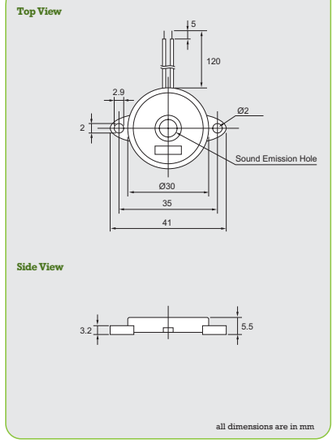
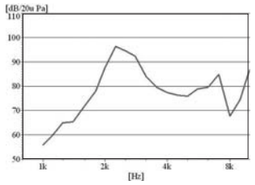


– DB-E548 External Drive Piezo Transducer

- electrical specifications

Model		54PZ30250
Min. Sound Output	(dBA)	90 min. (3V rms / Sine Wave / 10cm / 2500Hz)
Capacitance	(pF)	25000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	6

- Frequency Response



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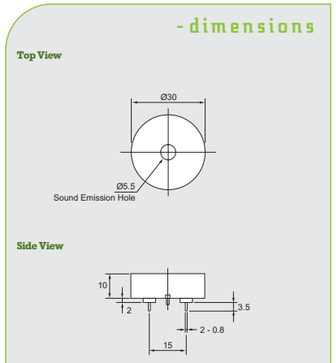

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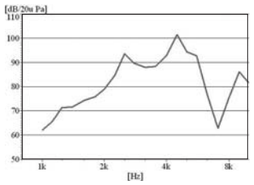
– DB-E558 External Drive Piezo Transducer

- electrical specifications

Model		55PZ30400
Min. Sound Output	(dBA)	85 min. (3V rms / Sine Wave / 10cm / 4000Hz)
Capacitance	(pF)	25000 ± 30% at 1000Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	5

- Frequency Response



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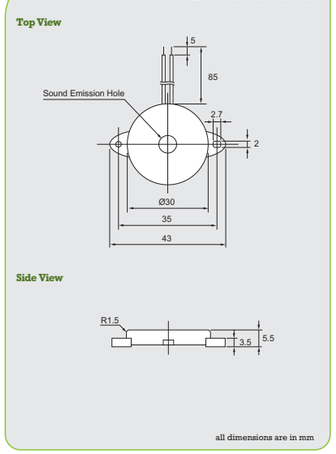
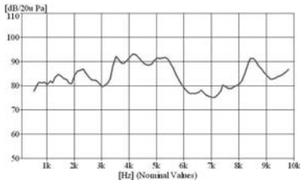


– DB-E2178 External Drive Piezo Transducer

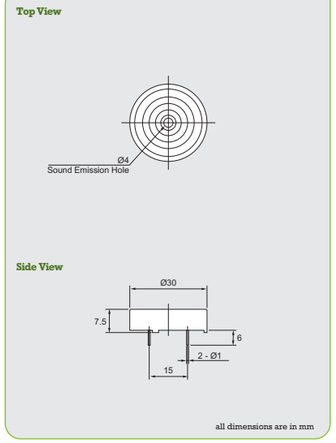
- electrical specifications

Model		217PZ30460
Min. Sound Output	(dBA)	85 min. (5V p-p / Square Wave / 10cm / 4600Hz)
Capacitance	(pF)	30000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	4

- Frequency Response



- dimensions

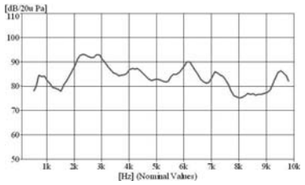


– DB-E708 External Drive Piezo Transducer

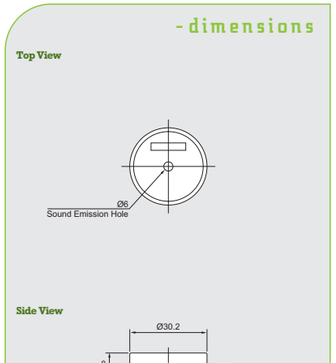
- electrical specifications

Model		70PZ30400
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 10cm / 4000Hz)
Capacitance	(pF)	25000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	5

- Frequency Response



- dimensions



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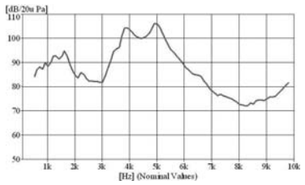
– DB-E1158 External Drive Piezo Transducer

- electrical specifications

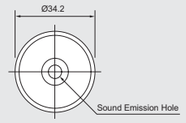
Model		115PZ34120
Min. Sound Output	(dBA)	80 min. (9V p-p / Square Wave / 30cm / 1200Hz)
Capacitance	(pF)	45000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	5

- Frequency Response

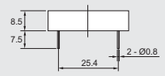


- dimensions

Top View



Side View



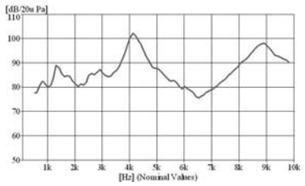
all dimensions are in mm

– DB-E528 External Drive Piezo Transducer

- electrical specifications

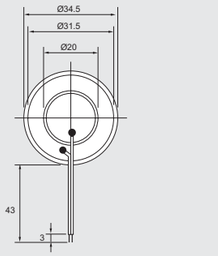
Model		52PZ35130
Min. Sound Output	(dBA)	80 min. (30V p-p / Square Wave / 10cm / 1300Hz)
Capacitance	(pF)	45000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- Frequency Response



- dimensions

Top View



Side View

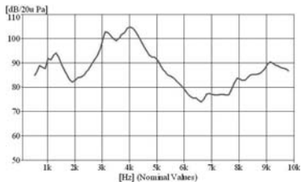
all dimensions are in mm

– DB-E588 External Drive Piezo Transducer

- electrical specifications

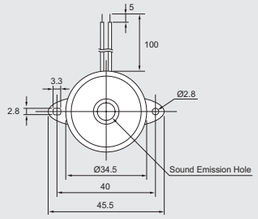
Model		58PZ34120
Min. Sound Output	(dBA)	70 min. (3V rms / Sine Wave / 10cm / 1200Hz)
Capacitance	(pF)	50000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	6

- Frequency Response

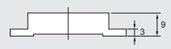


- dimensions

Top View



Side View



all dimensions are in mm

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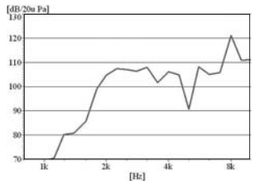
– DB-E2168 External Drive Piezo Transducer

- electrical specifications

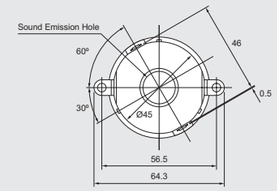
Model		216PZ46320
Min. Sound Output	(dBA)	100 min. (12V rms / Sine Wave / 30cm / 3200Hz)
Capacitance	(pF)	25000 ± 30% at 120Hz
Max. Input Voltage	(rms)	40
Operating Temperature	(°C)	-40 ~ +105
Weight	(g)	11

- Frequency Response

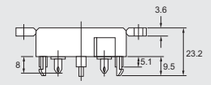


- dimensions

Top View



Side View



all dimensions are in mm

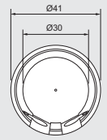
– DB-E1718 External Drive Piezo Transducer

- electrical specifications

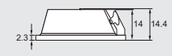
Model		171PZ41350
Min. Sound Output	(dBA)	95 min. (2.83V rms / Sine Wave / 30cm / 35000Hz)
Frequency Range	(pF)	22000 ~ 45000
Max. Input Voltage	(rms)	10
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	8

- dimensions

Top View



Side View



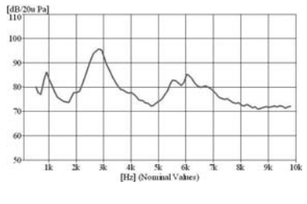
all dimensions are in mm

– DB-E1538 External Drive Piezo Transducer

- electrical specifications

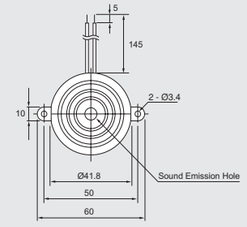
Model		153PZ42280
Min. Sound Output	(dBA)	90 min. (12V p-p / Square Wave / 30cm / 2800Hz)
Capacitance	(pF)	35000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- Frequency Response



- dimensions

Top View



Side View

all dimensions are in mm

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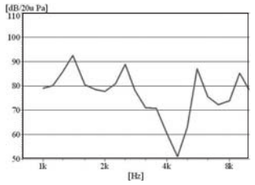
– DB-E568 External Drive Piezo Transducer

- electrical specifications

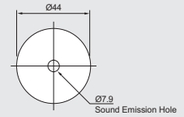
Model		56PZ44100
Min. Sound Output	(dBA)	70 min. (3V rms / Sine Wave / 10cm / 1000Hz)
Capacitance	(pF)	80000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	12

- Frequency Response

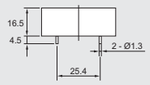


- dimensions

Top View



Side View



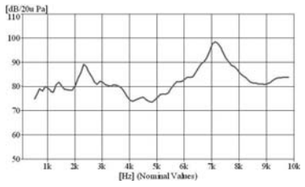
all dimensions are in mm

– DB-E498 External Drive Piezo Transducer

- electrical specifications

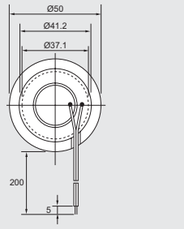
Model		49PZ50100B
Min. Sound Output	(dBA)	75 min. (12V p-p / Square Wave / 10cm / 1000Hz)
Capacitance	(pF)	120000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	40
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	4

- Frequency Response



- dimensions

Top View



Side View

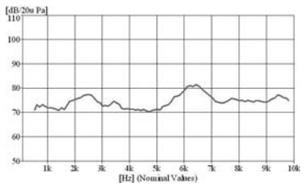
all dimensions are in mm

– DB-E1738 External Drive Piezo Transducer

- electrical specifications

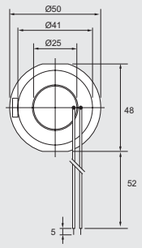
Model		173PZ50200
Frequency Range	(Hz)	500 ~ 20000 (3V p-p / Square Wave / 30cm)
Capacitance	(pF)	120000 ± 30% at 120Hz
Max. Input Voltage	(V p-p)	30
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2.5

- Frequency Response



- dimensions

Top View



Side View

all dimensions are in mm

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03. Transducer

– Self Drive Piezo Transducer

DB Products Limited

- selection guide

Self Drive Piezo Transducer

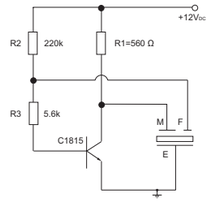
DB Series	Model	Diameter (Ømm)	Height (mm)	Min. Sound Output (dBA)	Resonant Frequency (Hz)	Rated Voltage (VDC)	Page No.
DB-E758	75PZ23350	22.5	5.9	80 at 30cm	3500 ± 500	12	045
DB-E418	41PZ23500	23	5	75 at 10cm	5000 ± 1000	6	045
DB-E928	92PZ24380	24	11	90 at 10cm	3800 ± 500	12	045
DB-E1258	125PZ25320	25 x 24	10	86 at 20cm	3200 ± 400	12	046
DB-E1928	192PZ24300	24	11.8	80 at 30cm	3000 ± 500	12	046
DB-E768	76PZ25680	24.7	7	90 at 10cm	6800 ± 500	12	046
DB-E358	35PZ28300	28.5	11.5	75 at 1m	3000 ± 500	12	047
DB-E1028	102PZ30340	29.7	16.5	100 at 30cm	3400 ± 500	9	047
DB-E878	87PZ30270	30	12.1	75 at 1m	2700 ± 500	12	047
DB-E1248	124PZ30360	30	11.5	88 at 10cm	3600 ± 500	12	048
DB-E168	16PZ3200	39	15.8	95 at 30cm	3400 ± 500	9	048
DB-E1488	148PZ42280	41.8	16	85 at 30cm	2800 ± 500	12	048

– DB-E758 Self Drive Piezo Transducer

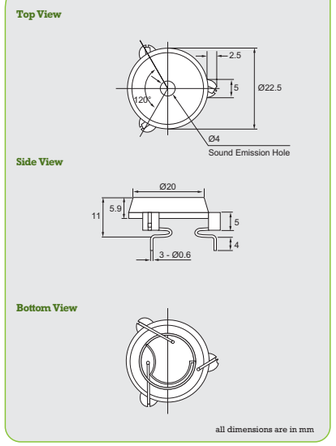
- electrical specifications

Model		75PZ23350
Operating Voltage	(VDC)	3 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	80 at 30cm
Resonant Frequency	(Hz)	3500 ± 500
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1.7

- reference circuit



- dimensions



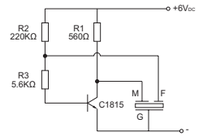
all dimensions are in mm

– DB-E418 Self Drive Piezo Transducer

- electrical specifications

Model		41PZ23500
Operating Voltage	(VDC)	3 ~ 18
Rated Voltage	(VDC)	6
Max. Rated Current	(mA)	5
Min. Sound Output	(dBA)	75 at 10cm
Resonant Frequency	(Hz)	5000 ± 1000
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2

- reference circuit



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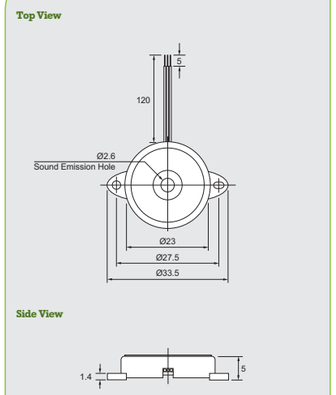


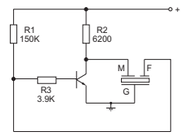
all dimensions are in mm

– DB-E928 Self Drive Piezo Transducer

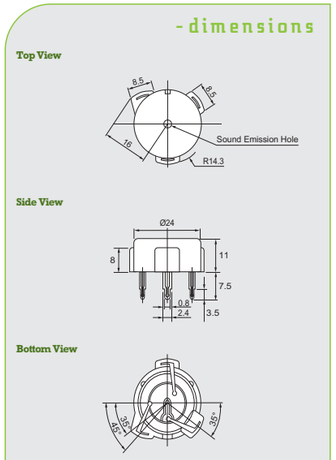
- electrical specifications

Model		92PZ24380
Operating Voltage	(VDC)	3 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	90 at 10cm
Resonant Frequency	(Hz)	3800 ± 500
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	4.5

- reference circuit



- dimensions



all dimensions are in mm

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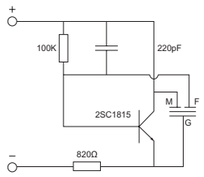
– DB-E1258 Self Drive Piezo Transducer

-electrical specifications

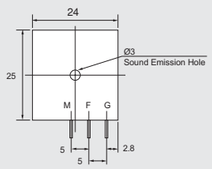
Model		125PZ25320
Operating Voltage	(VDC)	6 ~ 30
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	86 at 20cm
Resonant Frequency	(Hz)	3200 ± 400
Operating Temperature	(°C)	-20 ~ +125
Weight	(g)	3.5

-reference circuit

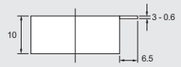


-dimensions

Top View



Side View



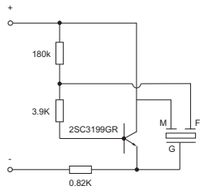
all dimensions are in mm

– DB-E1928 Self Drive Piezo Transducer

-electrical specifications

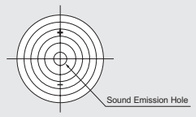
Model		192PZ24300
Operating Voltage	(VDC)	3 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	80 at 30cm
Resonant Frequency	(Hz)	3000 ± 500
Operating Temperature	(°C)	-30 ~ +80
Weight	(g)	3.4

-reference circuit

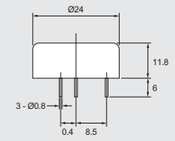


-dimensions

Top View



Side View



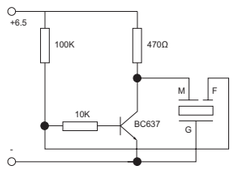
all dimensions are in mm

– DB-E768 Self Drive Piezo Transducer

-electrical specifications

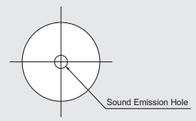
Model		76PZ25680
Operating Voltage	(VDC)	3 ~ 24
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	90 at 10cm
Resonant Frequency	(Hz)	6800 ± 500
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2.5

-reference circuit

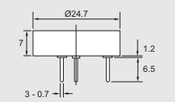


-dimensions

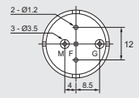
Top View



Side View



Bottom View



all dimensions are in mm

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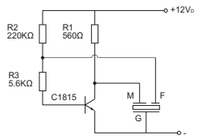
– DB-E358 Self Drive Piezo Transducer

-electrical specifications

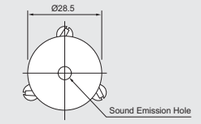
Model		35PZ28300
Operating Voltage	(VDC)	3 ~ 24
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	75 at 1m
Resonant Frequency	(Hz)	3000 ± 500
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	3

-reference circuit

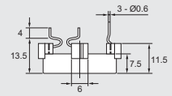


-dimensions

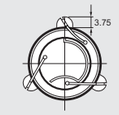
Top View



Side View



Bottom View



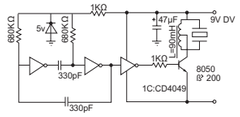
all dimensions are in mm

– DB-E1028 Self Drive Piezo Transducer

-electrical specifications

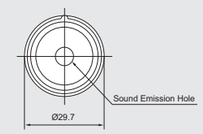
Model		102PZ30340
Operating Voltage	(VDC)	3 ~ 28
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	180
Min. Sound Output	(dBA)	100 at 30cm
Resonant Frequency	(Hz)	3400 ± 500
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	8

-reference circuit

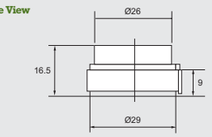


-dimensions

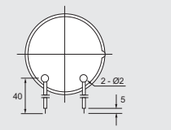
Top View



Side View



Bottom View



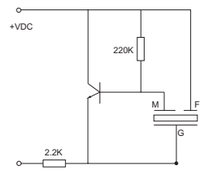
all dimensions are in mm

– DB-E878 Self Drive Piezo Transducer

-electrical specifications

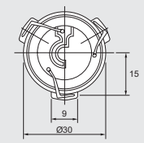
Model		87PZ30270
Operating Voltage	(VDC)	1.5 ~ 24
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	75
Min. Sound Output	(dBA)	75 at 1m
Resonant Frequency	(Hz)	2700 ± 500
Operating Temperature	(°C)	-20 ~ +105
Weight	(g)	5

-reference circuit

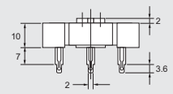


-dimensions

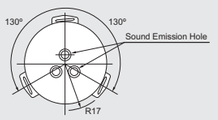
Top View



Side View



Bottom View



all dimensions are in mm

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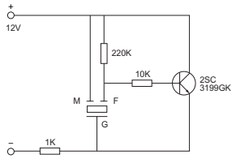
– DB-E1248 Self Drive Piezo Transducer

-electrical specifications

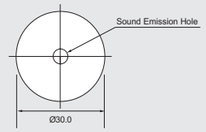
Model		124PZ30360
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	88 at 10cm
Resonant Frequency	(Hz)	3600 ± 500
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	5

-reference circuit

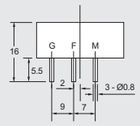


-dimensions

Top View



Side View



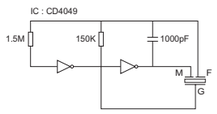
all dimensions are in mm

– DB-E168 Self Drive Piezo Transducer

-electrical specifications

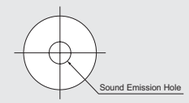
Model		16PZ3200
Operating Voltage	(VDC)	3.5 ~ 28
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	95 at 30cm
Resonant Frequency	(Hz)	3400 ± 500
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	14.5

-reference circuit

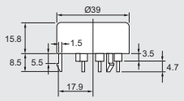


-dimensions

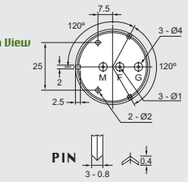
Top View



Side View



Bottom View



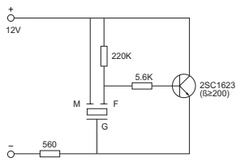
all dimensions are in mm

– DB-E1488 Self Drive Piezo Transducer

-electrical specifications

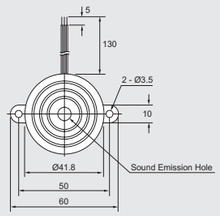
Model		148PZ42280
Operating Voltage	(VDC)	3 ~ 24
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	8
Min. Sound Output	(dBA)	85 at 30cm
Resonant Frequency	(Hz)	2800 ± 500
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	10

-reference circuit

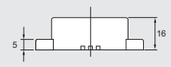


-dimensions

Top View



Side View



all dimensions are in mm

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04. Buzzer

– Magnetic Buzzer

DB Products Limited

- selection guide

Magnetic Buzzer

DB Series	Model	Diameter (Ømm)	Height (mm)	Rated Voltage (VDC)	Tone Nature	Min. Sound Output (dBA)	Frequency (Hz)	Page No.
MDB	MDB03	9.6	5	3	Single	73 at 10cm	2500 ± 200	051
MDB	MDB05	9.6	5	5	Single	76 at 10cm	2500 ± 200	051
WDB	WDB05	12	6.5	5	Single	85 at 10cm	2300 ± 300	051
UDB	UDB05	12	7.5	5	Single	83 at 10cm	2300 ± 400	051
UDB	UDB12	12	7.5	12	Single	83 at 10cm	2300 ± 400	051
PDB	PDB05	12	7.5	5	Single	85 at 10cm	2300 ± 300	052
PDB	PDB12	12	7.5	12	Single	85 at 10cm	2300 ± 300	052
TDB	TDB05	12	9.5	5	Single	85 at 10cm	2300 ± 300	052
TDB	TDB12	12	9.5	12	Single	85 at 10cm	2300 ± 300	052
ADB	ADB01	12.5	8.8	1.5	Single	80 at 10cm	2500 ± 250	052
SUDB	SUDB05	12.8	7	5	Single	88 at 10cm	2400 ± 300	053
SUDB	SUDB12	12.8	7	12	Single	85 at 10cm	2400 ± 300	053
STDB	STDB05	12.8	10	5	Single	85 at 10cm	2300 ± 300	053
STDB	STDB12	12.8	10	12	Single	85 at 10cm	2300 ± 300	053
HDB	HDB06	16	14	6	Single	85 at 10cm	2300 ± 300	053
HDB	HDB12	16	14	12	Single	85 at 10cm	2300 ± 300	053
DB-E98	9S3120	22	12.5	12	Single	85 at 30cm	3400 ± 500	054
DB-E18	1S3060	28	14.5	6	Single	85 at 30cm	2800 ± 200	054
DB-E28	2S3060	28	20	6	Single	90 at 30cm	2800 ± 200	054

– MDB Magnetic Buzzer

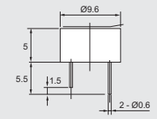
- electrical specifications

Model		MDB03	MDB05
Operating Voltage	(VDC)	2 ~ 5	3 ~ 7
Rated Voltage	(VDC)	3	5
Max. Rated Current	(mA)	20	25
Min. Sound Output	(dBA)	73 at 10cm	76 at 10cm
Frequency	(Hz)	2500 ± 200	2500 ± 200
Tone Nature		Single	Single
Operating Temperature	(°C)	-25 ~ +70	-25 ~ +70
Weight	(g)	1	1

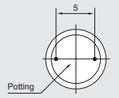
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

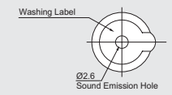
– WDB Magnetic Buzzer

- electrical specifications

Model		WDB05
Operating Voltage	(VDC)	4 ~ 7
Rated Voltage	(VDC)	5
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	2300 ± 300
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	2

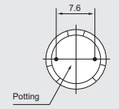
- dimensions

Top View



Side View

Bottom View



all dimensions are in mm

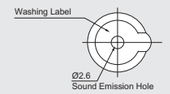
– UDB Magnetic Buzzer

- electrical specifications

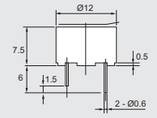
Model		UDB05	UDB12
Operating Voltage	(VDC)	3 ~ 7	9 ~ 15
Rated Voltage	(VDC)	5	12
Max. Rated Current	(mA)	30	30
Min. Sound Output	(dBA)	83 at 10cm	83 at 10cm
Frequency	(Hz)	2300 ± 400	2300 ± 400
Tone Nature		Single	Single
Operating Temperature	(°C)	-20 ~ +70	-20 ~ +70
Weight	(g)	2	2

- dimensions

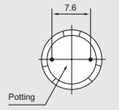
Top View



Side View



Bottom View



all dimensions are in mm

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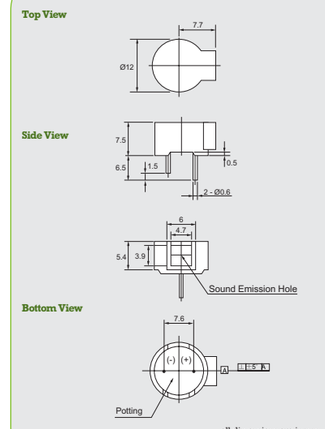
– PDB Magnetic Buzzer

- electrical specifications

Model		PDB05	PDB12
Operating Voltage	(VDC)	3.5 ~ 7	8 ~ 15
Rated Voltage	(VDC)	5	12
Max. Rated Current	(mA)	25	25
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2300 ± 300	2300 ± 300
Tone Nature		Single	Single
Operating Temperature	(°C)	-40 ~ +85	-40 ~ +85
Weight	(g)	2	2

- dimensions



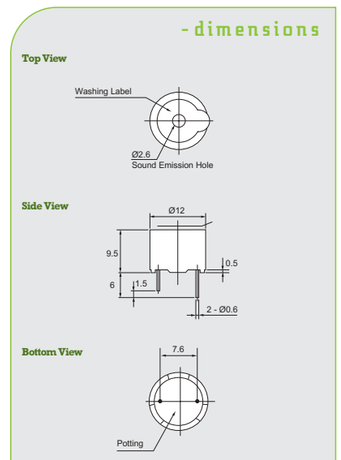
all dimensions are in mm

– TDB Magnetic Buzzer

- electrical specifications

Model		TDB05	TDB12
Operating Voltage	(VDC)	4 ~ 7	8 ~ 15
Rated Voltage	(VDC)	5	12
Max. Rated Current	(mA)	30	30
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2300 ± 300	2300 ± 300
Tone Nature		Single	Single
Operating Temperature	(°C)	-40 ~ +85	-40 ~ +85
Weight	(g)	2	2

- dimensions



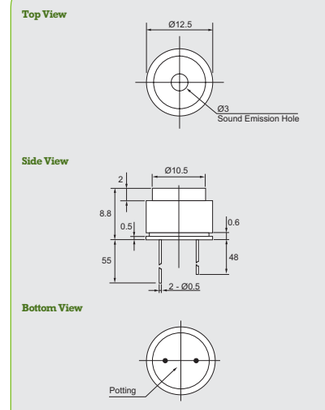
all dimensions are in mm

– ADB Magnetic Buzzer

- electrical specifications

Model		ADB01
Operating Voltage	(VDC)	1.25 ~ 3
Rated Voltage	(VDC)	1.5
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	80 at 10cm
Frequency	(Hz)	2500 ± 250
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +80
Weight	(g)	3

- dimensions



all dimensions are in mm

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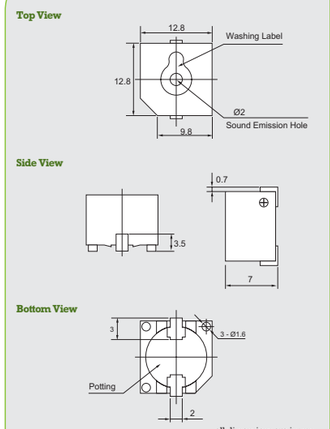
– SUDB Magnetic Buzzer

- electrical specifications

Model		SUDB05	SUDB12
Operating Voltage	(VDC)	4 ~ 7	8 ~ 15
Rated Voltage	(VDC)	5	12
Max. Rated Current	(mA)	30	30
Min. Sound Output	(dBA)	88 at 10cm	85 at 10cm
Frequency	(Hz)	2400 ± 300	2400 ± 300
Tone Nature		Single	Single
Operating Temperature	(°C)	-40 ~ +85	-20 ~ +70
Weight	(g)	2	2

- dimensions



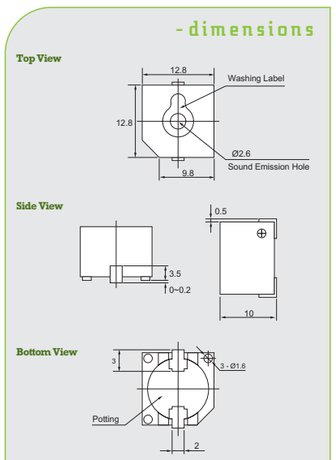
all dimensions are in mm

– STDB Magnetic Buzzer

- electrical specifications

Model		STDB05	STDB12
Operating Voltage	(VDC)	4 ~ 7	8 ~ 15
Rated Voltage	(VDC)	5	12
Max. Rated Current	(mA)	30	30
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2300 ± 300	2300 ± 300
Tone Nature		Single	Single
Operating Temperature	(°C)	-20 ~ +70	-40 ~ +85
Weight	(g)	2	2

- dimensions



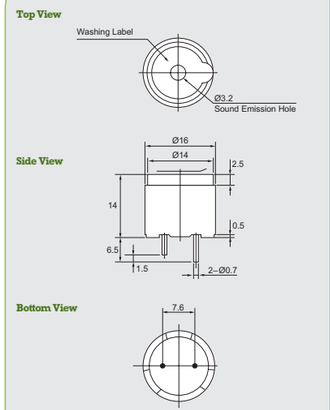
all dimensions are in mm

– HDB Magnetic Buzzer

- electrical specifications

Model		HDB06	HDB12
Operating Voltage	(V)	4 ~ 8	8 ~ 15
Rated Voltage	(V)	6	12
Max. Rated Current	(mA)	30	30
Min. Sound Output	(dBA)	85 at 10cm	85 at 10cm
Frequency	(Hz)	2300 ± 300	2300 ± 300
Tone Nature		Single	Single
Operating Temperature	(°C)	-40 ~ +85	-40 ~ +85
Weight	(g)	7	7

- dimensions



all dimensions are in mm

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Buzzer

– DB-E98 Magnetic Buzzer

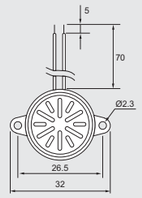
-electrical specifications

Model		9S3120
Operating Voltage	(VDC)	6 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	3400 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	13

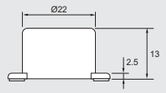
-dimensions

LEADWIRE TYPE

Top View



Side View



all dimensions are in mm

– DB-E18 Magnetic Buzzer

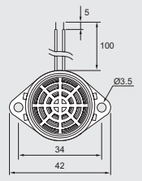
-electrical specifications

Model		1S3060
Operating Voltage	(VDC)	4 ~ 9
Rated Voltage	(VDC)	6
Max. Rated Current	(mA)	35
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	2800 ± 200
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	17

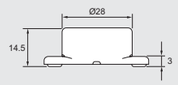
-dimensions

LEADWIRE TYPE

Top View



Side View



all dimensions are in mm

– DB-E28 Magnetic Buzzer

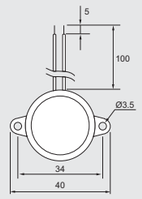
-electrical specifications

Model		2S3060
Operating Voltage	(VDC)	4 ~ 9
Rated Voltage	(VDC)	6
Max. Rated Current	(mA)	35
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	2800 ± 200
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	10

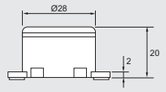
-dimensions

LEADWIRE TYPE

Top View



Side View



all dimensions are in mm

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05. Buzzer

– Mechanical Buzzer

DB Products Limited

- selection guide

Mechanical Buzzer

DB Series	Model	Diameter (Ømm)	Height (mm)	Rated Voltage (VDC)	Min. Sound Output (dBA)	Frequency (Hz)	Page No.
DB-E208	20S1030	23 x 17	15.5	3	70 at 20cm	400 ± 100	057
DB-E638	63S1240	23 x 17	15.5	24	75 at 20cm	400 ± 100	057
DB-E668	66S1120	23 x 17	13.5	12	75 at 20cm	400 ± 100	057
DB-E688	68S1090	22.5 x 17	14	9	75 at 20cm	400 ± 100	058
DB-E1268	126S1230A	23	20	160 ~ 260 VAC	78 at 10cm	–	058
DB-E2158	215S1240	23 x 17	15.5	24	75 at 30cm	400 ± 50	058
DB-E1668	166S1230	24.3 x 24	21	160 ~ 260 VAC	83 at 10cm	–	059
DB-E1048	104S1240	25.8	17.6	24	95 at 10cm	400 ± 100	059
DB-E348	34S1240	26 x 26	19.7	24	95 at 10cm	400 ± 100	059
DB-E728	72S1120	26 x 26	19.5	12	95 at 10cm	400 ± 100	060

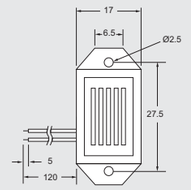
– DB-E208 Mechanical Buzzer

- electrical specifications

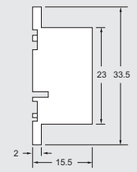
Model		20S1030
Operating Voltage	(VDC)	2 ~ 4
Rated Voltage	(VDC)	3
Max. Rated Current	(mA)	25
Min. Sound Output	(dBA)	70 at 20cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-10 ~ +60
Weight	(g)	10

- dimensions

Top View



Side View



all dimensions are in mm

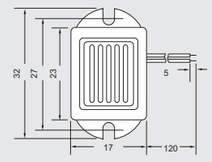
– DB-E638 Mechanical Buzzer

- electrical specifications

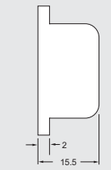
Model		63S1240
Operating Voltage	(VDC)	15 ~ 27
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	75 at 20cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-10 ~ +60
Weight	(g)	10

- dimensions

Top View



Side View



all dimensions are in mm

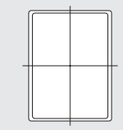
– DB-E668 Mechanical Buzzer

- electrical specifications

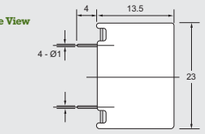
Model		66S1120
Operating Voltage	(VDC)	9 ~ 15
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	25
Min. Sound Output	(dBA)	75 at 20cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-10 ~ +60
Weight	(g)	10

- dimensions

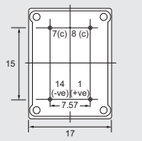
Top View



Side View



Bottom View



all dimensions are in mm

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– DB-E688 Mechanical Buzzer

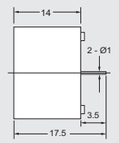
- electrical specifications

Model		68S1090
Operating Voltage	(VDC)	6 ~ 12
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	25
Min. Sound Output	(dBA)	75 at 20cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-10 ~ +60
Weight	(g)	10

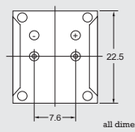
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

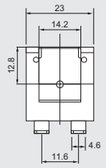
– DB-E1268 Mechanical Buzzer

- electrical specifications

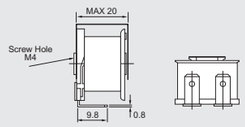
Model		126S1230A
Operating Voltage	(VAC)	230
Rated Voltage	(VAC)	160 ~ 260
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	78 at 10cm
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	20

- dimensions

Top View



Side View



all dimensions are in mm

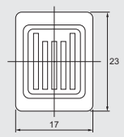
– DB-E2158 Mechanical Buzzer

- electrical specifications

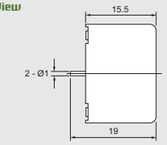
Model		215S1240
Operating Voltage	(VDC)	15 ~ 27
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	75 at 30cm
Resonant Frequency	(Hz)	400 ± 50
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +65
Weight	(g)	8.5

- dimensions

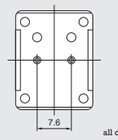
Top View



Side View



Bottom View



all dimensions are in mm

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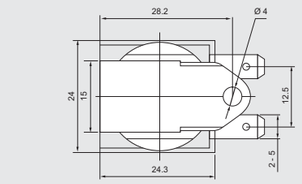
– DB-E1668 Mechanical Buzzer

- electrical specifications

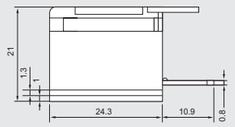
Model		166S1230
Operating Voltage	(VAC)	230
Rated Voltage	(VAC)	160 ~ 260
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	83 at 10cm
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	34

- dimensions

Top View



Side View



all dimensions are in mm

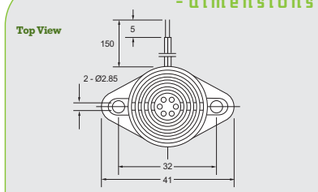
– DB-E1048 Mechanical Buzzer

- electrical specifications

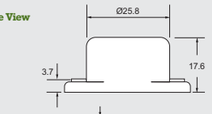
Model		104S1240
Operating Voltage	(VDC)	20 ~ 28
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	21
Min. Sound Output	(dBA)	95 at 10cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	17

- dimensions

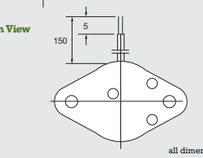
Top View



Side View



Bottom View



all dimensions are in mm

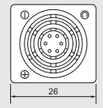
– DB-E348 Mechanical Buzzer

- electrical specifications

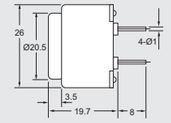
Model		34S1240
Operating Voltage	(VDC)	20 ~ 28
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	50
Min. Sound Output	(dBA)	95 at 10cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	17

- dimensions

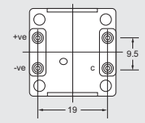
Top View



Side View



Bottom View



all dimensions are in mm

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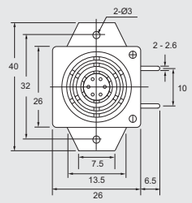
– DB-E728 Mechanical Buzzer

- electrical specifications

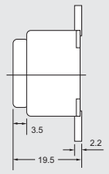
Model		72S1120
Operating Voltage	(VDC)	8 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	55
Min. Sound Output	(dBA)	95 at 10cm
Resonant Frequency	(Hz)	400 ± 100
Tone Nature		Single
Operating Temperature	(°C)	-10 ~ +60
Weight	(g)	17

- dimensions

Top View



Side View



all dimensions are in mm

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06. Buzzer

– Piezo Buzzer

DB Products Limited

- selection guide

Piezo Buzzer

DB Series	Model	Diameter (Ømm)	Height (mm)	Rated Voltage (VDC)	Tone Nature	Min. Sound Output (dBA)	Frequency (Hz)	Page No.
DB-E1418	141S5120	12	8.5	12	Single	85 at 10cm	5000 ± 1000	063
DB-E328	32S4120	13.8	7.5	12	Single	80 at 10cm	4000 ± 500	063
SL13	SL13S4120	15.4	13.9	12	Single	85 at 10cm	4000 ± 500	063
DB-E1978	197S4120	17.6	10	12	Single	85 at 10cm	4000 ± 500	064
DB-E218	21S5120	22	10.8	12	Single	85 at 30cm	4500 ± 500	064
DB-E248	24S3090	22	12	9	Single	85 at 30cm	3300 ± 500	064
DB-E268	26S4120	23	9.8	12	Single	85 at 30cm	3500 ± 500	065
DB-E948	94S4120	23	9.8	12	Single	85 at 30cm	3500 ± 500	065
DB-E1528	152S3120	23	17	12	Single	90 at 30cm	3700 ± 500	065
SL11	SL11S32200	23	19	220(VAC)	Single	80 at 30cm	3300 ± 500	066
DB-E1168	116S3120	23.5	9.5	12	Single	90 at 10cm	3400 ± 500	066
DB-E238	23S3120AN	23.8	16	12	Single	85 at 30cm	2900 ± 500	066
DB-E1938	193S3090	24	9.5	9	Single	82 at 30cm	3400 ± 500	067
DB-E1988	198S3120	24	12.5	12	Single	90 at 10cm	3400 ± 500	067
DB-E1328	132S3120	25.9 x 25.9	25.9	12	Single	88 at 30cm	3300 ± 500	067
DB-E1708	170S3120	26	22	9/12	Single	92/60cm(9V) / 98/60cm(12V)	2800 ± 500	068
DB-E1948	194S3120	27.5	14	12	Single	85 at 30cm	2800 ± 500	068
DB-E78	7D3240	29.5	24.5	24	Dual	90/95 at 30cm	3200 ± 500	068
DB-E1958	195S3120	29.8	9.5	12	Single	85 at 30cm	3400 ± 500	069
DB-E898	89S4120	30	19.5	12	Single	90 at 30cm	3500 ± 500	069
DB-E2138	213S2120	30	17	12	Single	87 at 10cm	1800 ± 500	069
DB-E278	27S3120	30.2	14.7	12	Single	90 at 30cm	3000 ± 500	070
DB-E318	31S5120	32 x 23.4	6.8	12	Single	85 at 10cm	5800 ± 500	070
DB-E858	85S4120	32	14	12	Single	87 at 30cm	3900 ± 500	070
DB-E1288	128S3120	33	19.4	12	Single	90 at 30cm	3100 ± 500	071
DB-E1968	196S3090	35.2	30.5	9	Single	80 at 1m	2800 ± 500	071
DB-E2188	218R2280	36	35	28	Siren	95 at 61cm	2200 ± 500	071
DB-E2198	219S3300	36	26	30	Single	90 at 60cm	2900 ± 500	072
DB-E2208	220R2090	36	40	9	Siren	105 at 10cm	2200 ± 300	072
DB-E1218	121PF3120	36.3	26	12	Fast Pulse	85 at 1m	3000 ± 500	072
DB-E298	29SL3120	41.8	16	12	Single	96 at 30cm	2800 ± 500	073
DB-E108	10S3240	42	20.5	24	Single	85 at 30cm	2900 ± 500	073
DB-E288	28SL3120	43	14	12	Single	100 at 30cm	2800 ± 500	073
SL12	SL12BDN3120	43	33	12	Single / Slow pulse	90 at 30cm	2900 ± 500	074
DB-E118	11D3120	43.5	34.5	12	Dual	90/95 at 30cm	2900 ± 500	074
DB-E38	3D3120	45	26	12	Dual	100/105 at 30cm	2900 ± 500	074
SL15	SL15R3240	44.5 x 40	57.5	24	Siren	100 at 30cm	1000 ~ 3500	075
DB-E308	30S3120	50	29	12	Single	108 at 25.4cm	2500 ± 500	075
DB-E628	62T3120	50	38	12	Two	105 at 30cm	3000 ~ 3200 ± 500	075
DB-E738	73R2120	52	50	12	Siren	105 at 1m	1500 ~ 4000	076
DB-E1228	122S3060	53	31	6	Single	93 at 30cm	2800 ± 500	076
DB-E1438	143S3120	60	38	12	Single	100 at 1m	2800 ± 400	076
DB-E188	18R3120	84.5 x 54.5	32.5	12	Siren	105 at 1m	2600 ~ 3100	077
DB-E198	19R3120	105.5 x 105.5	44.5	12	Siren	97 at 3m	1500 ~ 3100	077

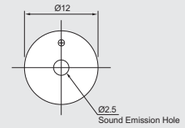
– DB-E1418 Piezo Buzzer

- electrical specifications

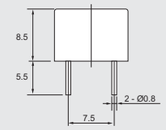
Model		141S5120
Operating Voltage	(VDC)	3 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	8
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	5000 ± 1000
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	4

- dimensions

Top View



Side View



all dimensions are in mm

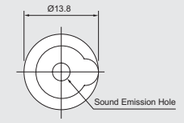
– DB-E328 Piezo Buzzer

- electrical specifications

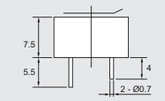
Model		32S4120
Operating Voltage	(VDC)	3 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	7
Min. Sound Output	(dBA)	80 at 10cm
Frequency	(Hz)	4000 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	1

- dimensions

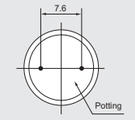
Top View



Side View



Bottom View



all dimensions are in mm

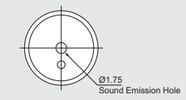
– SL13 Piezo Buzzer

- electrical specifications

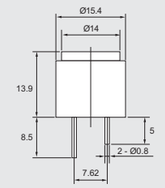
Model		SL13S4120
Operating Voltage	(VDC)	1 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	4000 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	2.5

- dimensions

Top View



Side View



all dimensions are in mm

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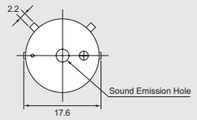
– DB-E1978 Piezo Buzzer

- electrical specifications

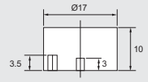
Model		197S4120
Operating Voltage	(VDC)	3 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	4000 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +75
Weight	(g)	1.6

- dimensions

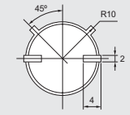
Top View



Side View



Bottom View



all dimensions are in mm

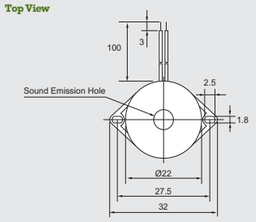
– DB-E218 Piezo Buzzer

- electrical specifications

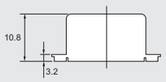
Model		21S5120
Operating Voltage	(VDC)	3 ~ 30
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	3
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	4500 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	5

- dimensions

Top View



Side View



all dimensions are in mm

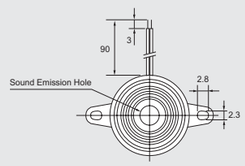
– DB-E248 Piezo Buzzer

- electrical specifications

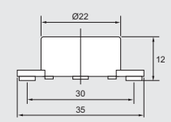
Model		24S3090
Operating Voltage	(VDC)	1.5 ~ 24
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	3300 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	14

- dimensions

Top View



Side View



all dimensions are in mm

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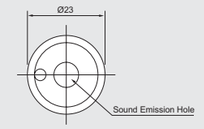
– DB-E268 Piezo Buzzer

- electrical specifications

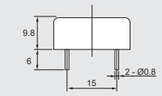
Model		26S4120
Operating Voltage	(VDC)	1.5 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	3500 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	4

- dimensions

Top View



Side View



all dimensions are in mm

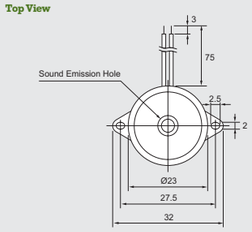
– DB-E948 Piezo Buzzer

- electrical specifications

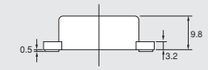
Model		94S4120
Operating Voltage	(VDC)	3 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	3500 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-25 ~ +65
Weight	(g)	3.5

- dimensions

Top View



Side View



all dimensions are in mm

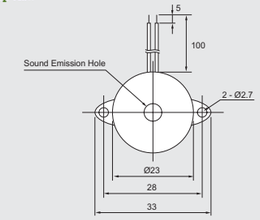
– DB-E1528 Piezo Buzzer

- electrical specifications

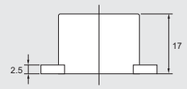
Model		152S3120
Operating Voltage	(VDC)	3 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	8
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	3700 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	5

- dimensions

Top View



Side View



all dimensions are in mm

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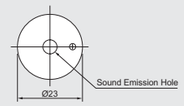
– SL11 Piezo Buzzer

- electrical specifications

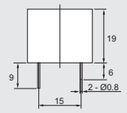
Model		SL11S32200
Operating Voltage	(VAC)	30 ~ 264
Rated Voltage	(VAC)	220
Max. Rated Current	(mA)	5
Min. Sound Output	(dBA)	80 at 30cm
Frequency	(Hz)	3300 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	8

- dimensions

Top View



Side View



all dimensions are in mm

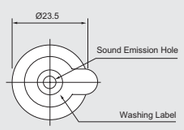
– DB-E1168 Piezo Buzzer

- electrical specifications

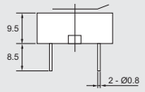
Model		116S3120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	90 at 10cm
Frequency	(Hz)	3400 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	4

- dimensions

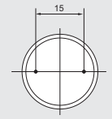
Top View



Side View



Bottom View



all dimensions are in mm

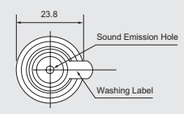
– DB-E238 Piezo Buzzer

- electrical specifications

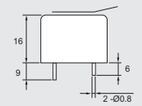
Model		23S3120AN
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	8
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +85
Weight	(g)	6

- dimensions

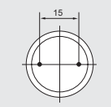
Top View



Side View



Bottom View



all dimensions are in mm

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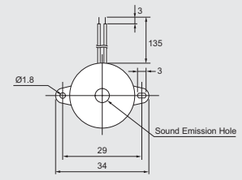
– DB-E1938 Piezo Buzzer

- electrical specifications

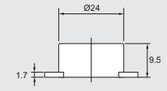
Model		193S3090
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	82 at 30cm
Frequency	(Hz)	3400 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +65
Weight	(g)	4

- dimensions

Top View



Side View



all dimensions are in mm

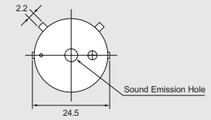
– DB-E1988 Piezo Buzzer

- electrical specifications

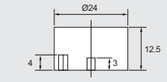
Model		198S3120
Operating Voltage	(VDC)	3 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	90 at 10cm
Frequency	(Hz)	3400 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +75
Weight	(g)	0.8

- dimensions

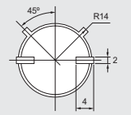
Top View



Side View



Bottom View



all dimensions are in mm

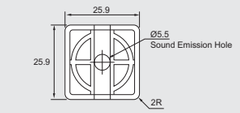
– DB-E1328 Piezo Buzzer

- electrical specifications

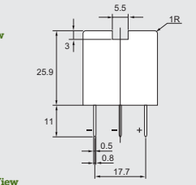
Model		132S3120
Operating Voltage	(VDC)	9 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	88 at 30cm
Frequency	(Hz)	3300 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +85
Weight	(g)	10

- dimensions

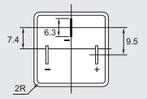
Top View



Side View



Bottom View



all dimensions are in mm

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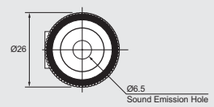
– DB-E1708 Piezo Buzzer

- electrical specifications

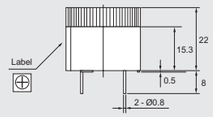
Model		170S3120
Operating Voltage	(VDC)	5 ~ 18
Rated Voltage	(VDC)	9/12
Max. Rated Current	(mA)	50
Sound Output	(dBA)	92 ± 5(9V) / 98 ± 5(12V) at 60cm
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	15

- dimensions

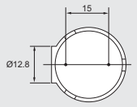
Top View



Side View



Bottom View



all dimensions are in mm

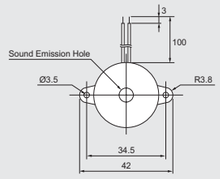
– DB-E1948 Piezo Buzzer

- electrical specifications

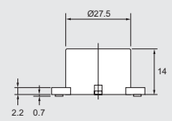
Model		194S3120
Operating Voltage	(VDC)	3 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +65
Weight	(g)	6.8

- dimensions

Top View



Side View



all dimensions are in mm

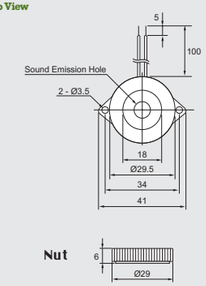
– DB-E78 Piezo Buzzer

- electrical specifications

Model		7D3240
Operating Voltage	(VDC)	1.5 ~ 28
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	30
Min. Sound Output	(dBA)	90/95 at 30cm
Frequency	(Hz)	3200 ± 500
Tone Nature		Dual
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	15

- dimensions

Top View



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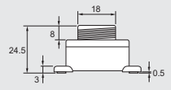
Side View



all dimensions are in mm

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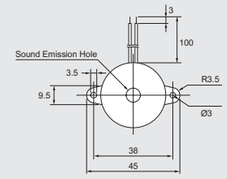
– DB-E1958 Piezo Buzzer

- electrical specifications

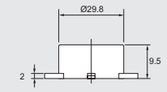
Model		195S3120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	3400 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +65
Weight	(g)	6

- dimensions

Top View



Side View



all dimensions are in mm

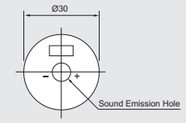
– DB-E898 Piezo Buzzer

- electrical specifications

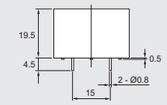
Model		89S4120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	3500 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	10

- dimensions

Top View



Side View



all dimensions are in mm

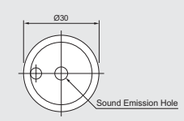
– DB-E2138 Piezo Buzzer

- electrical specifications

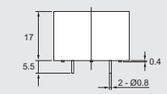
Model		213S2120
Operating Voltage	(VDC)	3 ~ 30
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	12
Min. Sound Output	(dBA)	87 at 10cm
Frequency	(Hz)	1800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	5

- dimensions

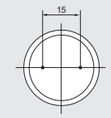
Top View



Side View



Bottom View



all dimensions are in mm

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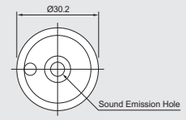
– DB-E278 Piezo Buzzer

- electrical specifications

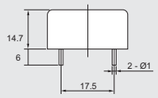
Model		27S3120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	3000 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	3

- dimensions

Top View



Side View



all dimensions are in mm

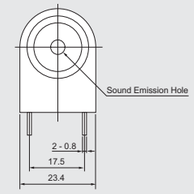
– DB-E318 Piezo Buzzer

- electrical specifications

Model		31S5120
Operating Voltage	(VDC)	3 ~ 24
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	8
Min. Sound Output	(dBA)	85 at 10cm
Frequency	(Hz)	5800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	8

- dimensions

Top View



Side View

all dimensions are in mm

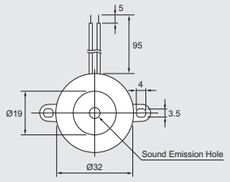
– DB-E858 Piezo Buzzer

- electrical specifications

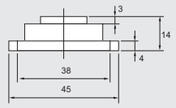
Model		85S4120
Operating Voltage	(VDC)	3 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	87 at 30cm
Frequency	(Hz)	3900 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	8

- dimensions

Top View



Side View



all dimensions are in mm

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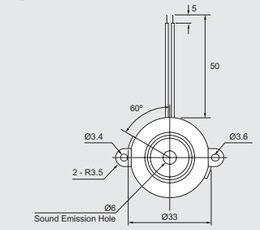
– DB-E1288 Piezo Buzzer

- electrical specifications

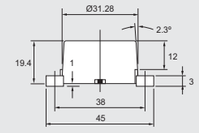
Model		128S3120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	3100 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +85
Weight	(g)	2.5

- dimensions

Top View



Side View



all dimensions are in mm

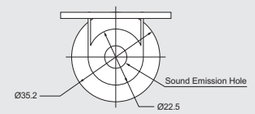
– DB-E1968 Piezo Buzzer

- electrical specifications

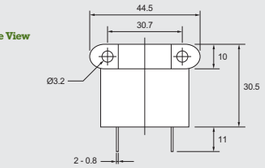
Model		196S3090
Operating Voltage	(VDC)	9 ~ 48
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	3
Min. Sound Output	(dBA)	80 at 1m
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	26

- dimensions

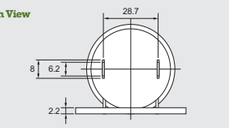
Top View



Side View



Bottom View



all dimensions are in mm

– DB-E2188 Piezo Buzzer

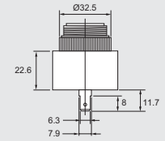
- electrical specifications

Model		218R2280
Operating Voltage	(VDC)	6 ~ 28
Rated Voltage	(VDC)	28
Max. Rated Current	(mA)	50
Min. Sound Output	(dBA)	95 at 61cm
Frequency	(Hz)	2200 ± 500
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

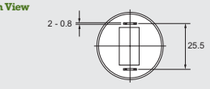
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

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– DB-E2198 Piezo Buzzer

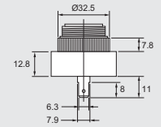
- electrical specifications

Model		219S3300
Operating Voltage	(VDC)	5 ~ 32
Rated Voltage	(VDC)	30
Max. Rated Current	(mA)	60
Min. Sound Output	(dBA)	90 at 60cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

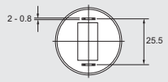
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

– DB-E2208 Piezo Buzzer

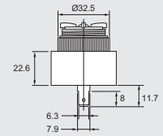
- electrical specifications

Model		220R2090
Operating Voltage	(VDC)	5 ~ 15
Rated Voltage	(VDC)	9
Max. Rated Current	(mA)	50
Min. Sound Output	(dBA)	105 at 10cm
Frequency	(Hz)	2200 ± 300
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

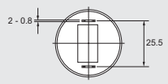
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

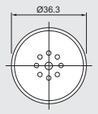
– DB-E1218 Piezo Buzzer

- electrical specifications

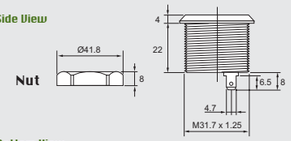
Model		121PF3120
Operating Voltage	(VDC)	5 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	18
Min. Sound Output	(dBA)	85 at 1m
Frequency	(Hz)	3000 ± 500
Tone Nature		Fast Pulse
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

- dimensions

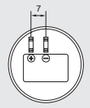
Top View



Side View



Bottom View



all dimensions are in mm

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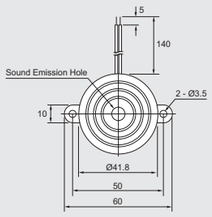
– DB-E298 Piezo Buzzer

- electrical specifications

Model		29SL3120
Operating Voltage	(VDC)	1.5 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	10
Min. Sound Output	(dBA)	96 at 30cm
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	15

- dimensions

Top View



Side View

all dimensions are in mm

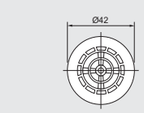
– DB-E108 Piezo Buzzer

- electrical specifications

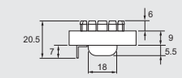
Model		10S3240
Operating Voltage	(VDC)	1 ~ 28
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	15
Min. Sound Output	(dBA)	85 at 30cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	18

- dimensions

Top View

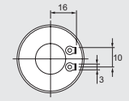


Side View



This portion snap-locks into panels 0.8 to 3.2 mm thick using appropriate compression washer 27mm dia. panel hole required.

Bottom View



all dimensions are in mm

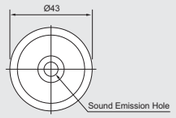
– DB-E288 Piezo Buzzer

- electrical specifications

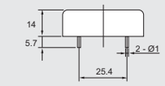
Model		28SL3120
Operating Voltage	(VDC)	3 ~ 20
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	12
Min. Sound Output	(dBA)	100 at 30cm
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	11

- dimensions

Top View



Side View



all dimensions are in mm

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– SL12 Piezo Buzzer

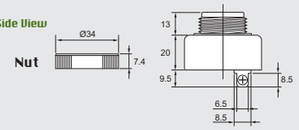
-electrical specifications

Model		SL12BDN3120
Operating Voltage	(VDC)	6 ~ 28
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	90 at 30cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Single / Slow pulse
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

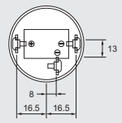
-dimensions

Top View

Side View



Bottom View



all dimensions are in mm

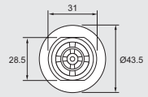
– DB-E118 Piezo Buzzer

-electrical specifications

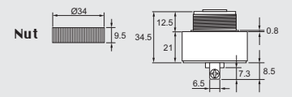
Model		11D3120
Operating Voltage	(VDC)	4 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	20/25
Min. Sound Output	(dBA)	90/95 at 30cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Dual
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	35

-dimensions

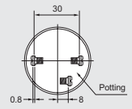
Top View



Side View



Bottom View



all dimensions are in mm

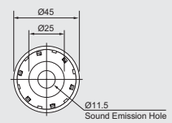
– DB-E38 Piezo Buzzer

-electrical specifications

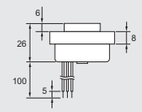
Model		3D3120
Operating Voltage	(VDC)	3 ~ 18
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	35
Min. Sound Output	(dBA)	100/105 at 30cm
Frequency	(Hz)	2900 ± 500
Tone Nature		Dual
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	28

-dimensions

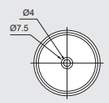
Top View



Side View



Bottom View



all dimensions are in mm

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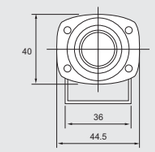
– SL15 Piezo Buzzer

-electrical specifications

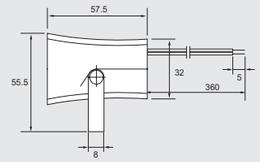
Model		SL15R3240
Operating Voltage	(VDC)	12 ~ 28
Rated Voltage	(VDC)	24
Max. Rated Current	(mA)	150
Min. Sound Output	(dBA)	100 at 30cm
Frequency	(Hz)	1000 ~ 3500
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	75

-dimensions

Top View



Side View



all dimensions are in mm

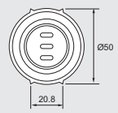
– DB-E308 Piezo Buzzer

-electrical specifications

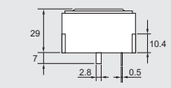
Model		30S3120
Operating Voltage	(VDC)	3 ~ 13
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	75
Min. Sound Output	(dBA)	108 at 25.4cm
Frequency	(Hz)	2500 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	40

-dimensions

Top View



Side View



Bottom View

all dimensions are in mm

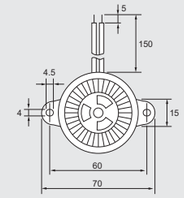
– DB-E628 Piezo Buzzer

-electrical specifications

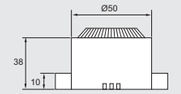
Model		62T3120
Operating Voltage	(VDC)	6 ~ 16
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	65
Min. Sound Output	(dBA)	105 at 30cm
Frequency	(Hz)	3000 ~ 3200 ± 500
Tone Nature		Two
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	45

-dimensions

Top View



Side View



all dimensions are in mm

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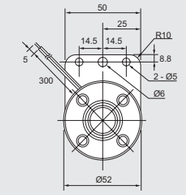
– DB-E738 Piezo Buzzer

- electrical specifications

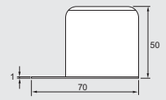
Model		73R2120
Operating Voltage	(VDC)	6 ~ 15
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	280
Min. Sound Output	(dBA)	105 at 1m
Frequency	(Hz)	1500 ~ 4000
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	80

- dimensions

Top View



Side View



all dimensions are in mm

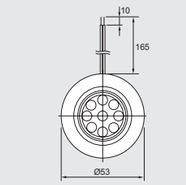
– DB-E1228 Piezo Buzzer

- electrical specifications

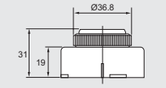
Model		122S3060
Operating Voltage	(VDC)	3 ~ 12
Rated Voltage	(VDC)	6
Max. Rated Current	(mA)	20
Min. Sound Output	(dBA)	93 at 30cm
Frequency	(Hz)	2800 ± 500
Tone Nature		Single
Operating Temperature	(°C)	-30 ~ +70
Weight	(g)	38

- dimensions

Top View



Side View



all dimensions are in mm

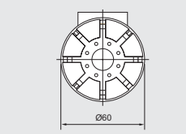
– DB-E1438 Piezo Buzzer

- electrical specifications

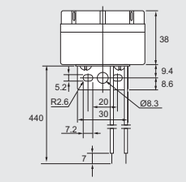
Model		143S3120
Operating Voltage	(VDC)	6 ~ 15
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	300
Min. Sound Output	(dBA)	100 at 1m
Frequency	(Hz)	2800 ± 400
Tone Nature		Single
Operating Temperature	(°C)	-20 ~ +70
Weight	(g)	110

- dimensions

Top View



Side View



all dimensions are in mm

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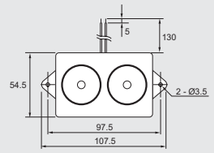
– DB-E188 Piezo Buzzer

- electrical specifications

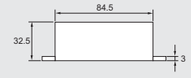
Model		18R3120
Operating Voltage	(VDC)	9 ~ 15
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	120
Min. Sound Output	(dBA)	105 at 1m
Frequency	(Hz)	2600 ~ 3100
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	90

- dimensions

Top View



Side View



all dimensions are in mm

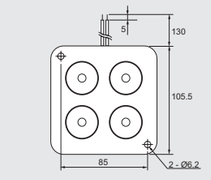
– DB-E198 Piezo Buzzer

- electrical specifications

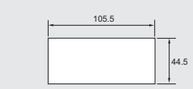
Model		19R3120
Operating Voltage	(VDC)	6 ~ 15
Rated Voltage	(VDC)	12
Max. Rated Current	(mA)	190
Min. Sound Output	(dBA)	97 at 3m
Frequency	(Hz)	1500 ~ 3100
Tone Nature		Siren
Operating Temperature	(°C)	-20 ~ +60
Weight	(g)	190

- dimensions

Top View



Side View



all dimensions are in mm

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07. Piezo Element

- External Drive Piezo Element
- Self Drive Piezo Element

DB Products Limited

Piezo Element

DB Series	Model	Diameter (D1) (Ømm)	Diameter (D2) (Ømm)	Metal Thickness (H) (mm)	Total Height (T) (mm)	Frequency (Hz)	Capacitance ± 30 % (pF)	Page No.
DB-E648	64PE061350	6.5	5	0.1	0.23	13500 ± 2000	2600	080
DB-E648	64PE121650	12	9	0.2	0.41	16500 ± 1500	6000	080
DB-E648	64PE151000	15	11	0.2	0.39	10500 ± 1000	8500	080
DB-E648	64PE200710	20	15	0.2	0.46	7000 ± 500	13000	080
DB-E648	64PE270330	27	20	0.2	0.38	3300 ± 500	35000	080
DB-E648	64PE310290	31	20	0.2	0.46	2900 ± 300	23000	080
DB-E648	64PE350280	35	25	0.25	0.53	2800 ± 500	40000	080
DB-E648	64PE410150	41	25	0.2	0.41	1500 ± 300	40000	080
DB-E648	64PE500130	50	30	0.2	0.41	1100 ± 500	60000	080
DB-E648	64FE200390	20	15	0.1	0.22	3900 ± 500	Cm : 25000 / Cf : 3000	081
DB-E648	64FE270300	27	20	0.15	0.32	3000 ± 300	Cm : 30000 / Cf : 3100	081
DB-E648	64FE350320	34.55	25	0.3	0.52	3200 ± 300	Cm : 37000 / Cf : 4600	081
DB-E648	64FE350260	35	25	0.25	0.48	2600 ± 300	Cm : 36000 / Cf : 4000	081

– DB-E648 External Drive Piezo Element

- electrical specifications

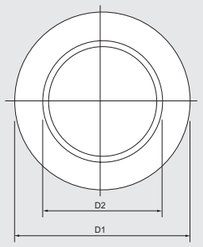
Model	64PE061350	64PE121650	64PE151000
Diameter (D1) (Ømm)	6.5	12	15
Diameter (D2) (Ømm)	5	9	11
Metal Thickness (H) (mm)	0.1	0.2	0.2
Total Height (T) (mm)	0.23	0.41	0.39
Frequency (Hz)	13500 ± 2000	16500 ± 1500	10500 ± 1000
Resonant Impedance (Ω)	6000 Max.	600 Max.	500 Max.
Capacitance ± 30 % (pF)	2600	6000	8500

- electrical specifications

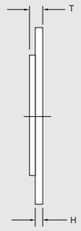
Model	64PE200710	64PE270330	64PE310290	64PE350280	64PE410150	64PE500130
Diameter (D1) (Ømm)	20	27	31	35	41	50
Diameter (D2) (Ømm)	15	20	20	25	25	30
Metal Thickness (H) (mm)	0.2	0.2	0.2	0.25	0.2	0.2
Total Height (T) (mm)	0.46	0.38	0.46	0.53	0.41	0.41
Frequency (Hz)	7000 ± 500	3300 ± 500	2900 ± 300	2800 ± 500	1500 ± 300	1100 ± 500
Resonant Impedance (Ω)	250 Max.	200 Max.	500 Max.	250 Max.	500 Max.	800 Max.
Capacitance ± 30 % (pF)	13000	35000	23000	40000	40000	60000

- dimensions

Top View



Side View



all dimensions are in mm

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– DB-E648 Self Drive Piezo Element

- electrical specifications

Model	64FE200390	64FE270300
Diameter (D1) (Ømm)	20	27
Diameter (D2) (Ømm)	15	20
Metal Thickness (H) (mm)	0.1	0.15
Total Height (T) (mm)	0.22	0.32
Frequency (Hz)	3900 ± 500	3000 ± 300
Resonant Impedance (Ω)	400 Max.	300 Max.
Capacitance ± 30 % (pF)	Cm : 25000 / Cf : 3000	Cm : 30000 / Cf : 3100

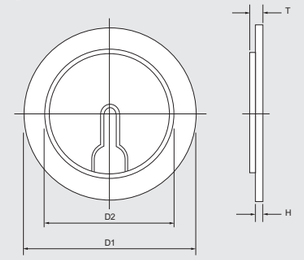
- electrical specifications

Model	64FE350320	64FE350260
Diameter (D1) (Ømm)	34.55	35
Diameter (D2) (Ømm)	25	25
Metal Thickness (H) (mm)	0.3	0.25
Total Height (T) (mm)	0.52	0.48
Frequency (Hz)	3200 ± 300	2600 ± 300
Resonant Impedance (Ω)	200 Max.	200 Max.
Capacitance ± 30 % (pF)	Cm : 37000 / Cf : 4600	Cm : 36000 / Cf : 4000

- dimensions

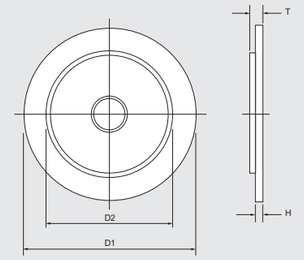
Top View

Side View



Top View

Side View



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08. Microphone

- MEMS Microphone
- Back Electret Condenser Microphone
- Omnidirectional Electret Condenser Microphone
- Unidirectional Electret Condenser Microphone
- Noise Cancelling Electret Condenser Microphone

DB Products Limited

MEMS Microphone

DB Series	Model	Diameter (mm)	Height (mm)	Sensitivity (dB)	Power Supply (Vs) (V)	Resistance Loading (RL) (Ω)	Frequency Range (Hz)	Max Current (mA)	S/N Ratio (dB)	Page No.
UC4545	UC4545TD423C3	4.5 x 4.5	1.45	- 42 ± 3	2.2	2.2K	100 ~ 16000	0.15	> 57	084
RC4738	RC4738TD423C3	4.72 x 3.76	1.25	- 42 ± 3	2.2	2.2K	100 ~ 16000	0.2	> 55	084
RC6038	RC6038TD423C3	6.15 x 3.76	1.45	- 42 ± 3	2.2	2.2K	100 ~ 16000	0.15	> 57	084

Back Electret Condenser Microphone

DB Series	Model	Diameter (Ømm)	Height (mm)	Sensitivity (dB)	Power Supply (Vs) (V)	Resistance Loading (RL) (Ω)	Frequency Range (Hz)	Max Current (mA)	S/N Ratio (dB)	Page No.
RBF4018	RBF4018ED443	5 X 4.2	1.8	- 44 ± 3	3	2.2K	100 ~ 10000	0.5	> 55	085
CBF4518	CBF4518CD443	Ø 4.5	1.8	- 44 ± 3	2	2.2K	100 ~ 10000	0.5	> 60	085
SBF4518	SBF4518CD443	4.8 X 4.8	1.8	- 44 ± 3	2	2.2K	50 ~ 16000	0.5	> 60	085
SBF6016	SBF6016ED443	6.4 X 6.4	1.6	- 44 ± 3	3	2.2K	50 ~ 16000	0.5	> 60	086
BF6016	BF6016ED422	Ø 6	1.6	- 42 ± 2	3	2.2K	50 ~ 16000	0.5	> 60	086

Omnidirectional Electret Condenser Microphone

DB Series	Model	Diameter (Ømm)	Height (mm)	Sensitivity (dB)	Power Supply (Vs) (V)	Resistance Loading (RL) (Ω)	Frequency Range (Hz)	Max Current (mA)	S/N Ratio (dB)	Page No.
IB3015	IB3015CD443	3	1.5	- 44 ± 3	2	2.2K	100 ~ 10000	0.5	> 60	086
C4015	C4015CD443	4	1.5	- 44 ± 3	2	2.2K	100 ~ 10000	0.5	> 60	087
C6022	C6022CD403	6	2.2	- 40 ± 3	2	2.2K	50 ~ 16000	0.5	> 60	087
C6027	C6027CD423	6	2.7	- 42 ± 3	2	2.2K	50 ~ 16000	0.5	> 60	087
C6052	C6052CD423	6	5.2	- 42 ± 3	2	2.2K	50 ~ 16000	0.5	> 60	088
C9745	C9745BD403	9.7	4.5	- 40 ± 3	1.5	2.2K	50 ~ 16000	0.5	> 60	088
C9767	C9767BD403	9.7	6.7	- 40 ± 3	1.5	2.2K	50 ~ 16000	0.5	> 60	088

Unidirectional Electret Condenser Microphone

DB Series	Model	Diameter (Ømm)	Height (mm)	Sensitivity (dB)	Power Supply (Vs) (V)	Resistance Loading (RL) (Ω)	Frequency Range (Hz)	Max Current (mA)	S/N Ratio (dB)	Page No.
U6027	U6027CD464	6	2.7	- 46 ± 4	2	2.2K	100 ~ 10000	0.5	> 55	089
U6035	U6035CD464	6	3.5	- 46 ± 4	2	2.2K	100 ~ 10000	0.5	> 55	089

Noise Cancelling Electret Condenser Microphone

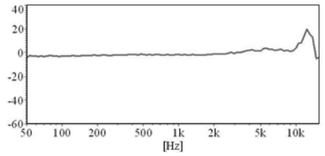
DB Series	Model	Diameter (Ømm)	Height (mm)	Sensitivity (dB)	Power Supply (Vs) (V)	Resistance Loading (RL) (Ω)	Frequency Range (Hz)	Max Current (mA)	S/N Ratio (dB)	Page No.
N4530	N4530CD543	4.5	3.0	- 53 ± 3 (at L = 50cm)	2	2.2K	100 ~ 10000	0.5	> 55	089
N9752	N9752BA544	9.7	5.2	- 54 ± 4 (at L = 50cm)	1.5	680	100 ~ 10000	0.5	> 55	090

– UC4545 MEMS Microphone

- electrical specifications

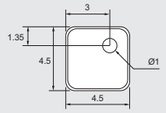
Model		UC4545TD423C3
Directivity		Omnidirectional
Operating Voltage Range	(V)	1.5 ~ 3.6
Power Supply (Vs)	(V)	2.2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 3
Max. Current	(mA)	0.15
Frequency Range	(Hz)	100 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 57

- Frequency Response



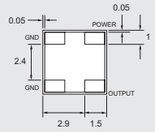
- dimensions

Top View



Side View

Bottom View



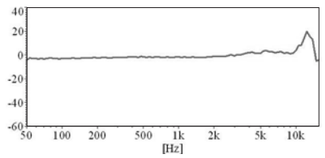
all dimensions are in mm

– RC4738 MEMS Microphone

- electrical specifications

Model		RC4738TD423C3
Directivity		Omnidirectional
Operating Voltage Range	(V)	1.5 ~ 3.6
Power Supply (Vs)	(V)	2.2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 3
Max. Current	(mA)	0.2
Frequency Range	(Hz)	100 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 55

- Frequency Response

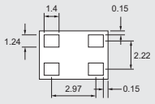


- dimensions

Top View

Side View

Bottom View



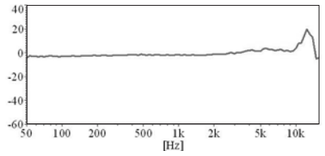
all dimensions are in mm

– RC6038 MEMS Microphone

- electrical specifications

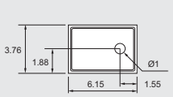
Model		RC6038TD423C3
Directivity		Omnidirectional
Operating Voltage Range	(V)	1.5 ~ 3.6
Power Supply (Vs)	(V)	2.2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 3
Max. Current	(mA)	0.15
Frequency Range	(Hz)	100 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 57

- Frequency Response



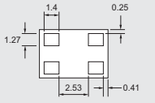
- dimensions

Top View



Side View

Bottom View



all dimensions are in mm

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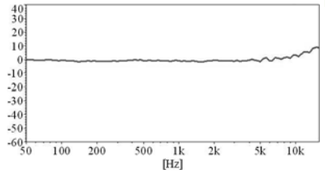
– RBF4018 Back Electret Condenser Microphone

- electrical specifications

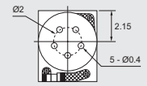
Model		RBF4018ED443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	3
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 55

- Frequency Response

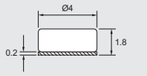


- dimensions

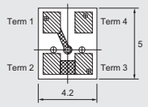
Top View



Side View



Bottom View



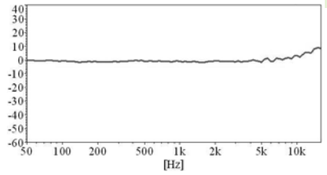
all dimensions are in mm

– CBF4518 Back Electret Condenser Microphone

- electrical specifications

Model		CBF4518CD443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

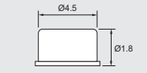
- Frequency Response



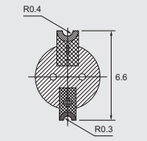
- dimensions

Top View

Side View



Bottom View



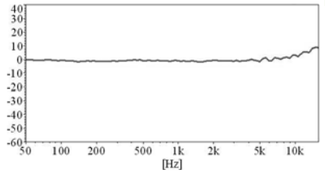
all dimensions are in mm

– SBF4518 Back Electret Condenser Microphone

- electrical specifications

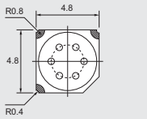
Model		SBF4518CD443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

- Frequency Response

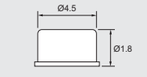


- dimensions

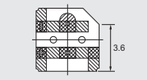
Top View



Side View



Bottom View



all dimensions are in mm

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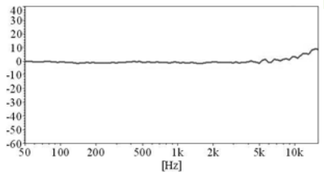
– SBF6016 Back Electret Condenser Microphone

- electrical specifications

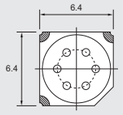
Model		SBF6016ED443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	3
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 60

- Frequency Response



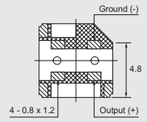
- dimensions

Top View



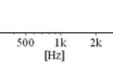
Side View

Bottom View



all dimensions are in mm

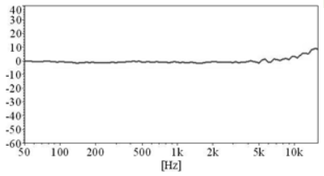
– BF6016 Back Electret Condenser Microphone



- electrical specifications

Model		BF6016ED422
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	3
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 2
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 2 V
S / N Ratio	(dB)	More than 60

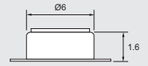
- Frequency Response



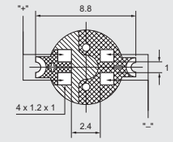
- dimensions

Top View

Side View



Bottom View



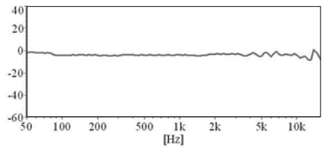
all dimensions are in mm

– IB3015 Omnidirectional Electret Condenser Microphone

- electrical specifications

Model		IB3015CD443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1.4 ~ 5
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

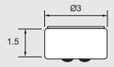
- Frequency Response



- dimensions

Top View

Side View



Bottom View

all dimensions are in mm

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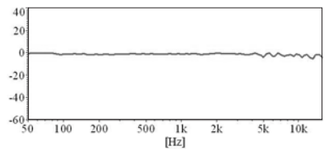
– C4015 Omnidirectional Electret Condenser Microphone

- electrical specifications

Model		C4015CD443
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-44 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

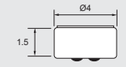
- Frequency Response



- dimensions

Top View

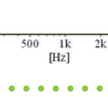
Side View



Bottom View

all dimensions are in mm

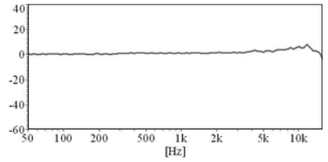
– C6022 Omnidirectional Electret Condenser Microphone



- electrical specifications

Model		C6022CD403
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-40 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

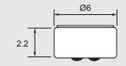
- Frequency Response



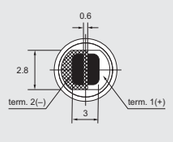
- dimensions

Top View

Side View



Bottom View



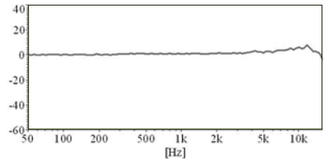
all dimensions are in mm

– C6027 Omnidirectional Electret Condenser Microphone

- electrical specifications

Model		C6027CD423
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

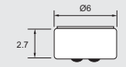
- Frequency Response



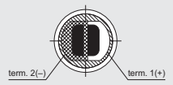
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

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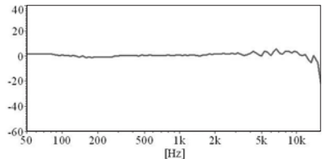
– C6052 Omnidirectional Electret Condenser Microphone

- electrical specifications

Model		C6052CD423
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-42 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 60

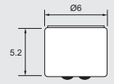
- Frequency Response



- dimensions

Top View

Side View



Bottom View

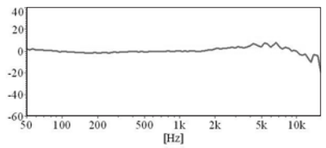
all dimensions are in mm

– C9745 Omnidirectional Electret Condenser Microphone

- electrical specifications

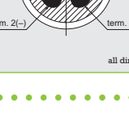
Model		C9745BD403
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	1.5
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-40 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.1 V
S / N Ratio	(dB)	More than 60

- Frequency Response

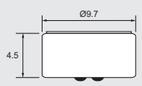


- dimensions

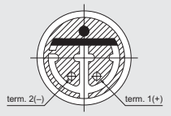
Top View



Side View



Bottom View



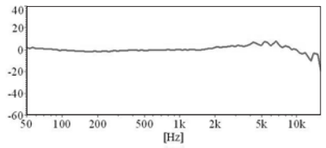
all dimensions are in mm

– C9767 Omnidirectional Electret Condenser Microphone

- electrical specifications

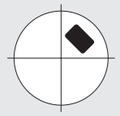
Model		C9767BD403
Directivity		Omnidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	1.5
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-40 ± 3
Max. Current	(mA)	0.5
Frequency Range	(Hz)	50 ~ 16000
Voltage Deduction Characteristic		Within 3 dB at 1.1 V
S / N Ratio	(dB)	More than 60

- Frequency Response

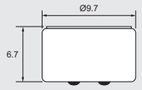


- dimensions

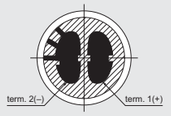
Top View



Side View



Bottom View



all dimensions are in mm

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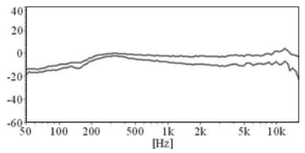
– U6027 Unidirectional Electret Condenser Microphone

- electrical specifications

Model		U6027CD464
Directivity		Unidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-46 ± 4
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 55

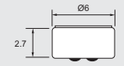
- Frequency Response



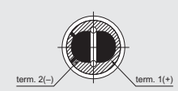
- dimensions

Top View

Side View

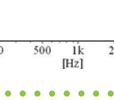


Bottom View



all dimensions are in mm

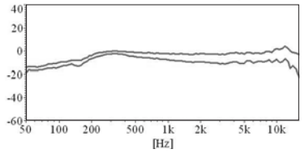
– U6035 Unidirectional Electret Condenser Microphone



- electrical specifications

Model		U6035CD464
Directivity		Unidirectional
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	-46 ± 4
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 55

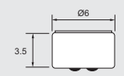
- Frequency Response



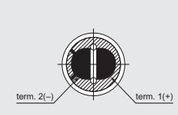
- dimensions

Top View

Side View



Bottom View



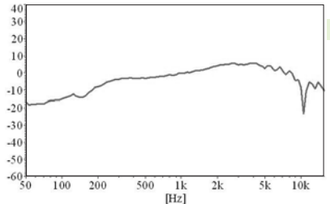
all dimensions are in mm

– N4530 Noise Cancelling Electret Condenser Microphone

- electrical specifications

Model		N4530CD543
Directivity		Noise Cancelling
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	2
Resistance Loading (RL)	(Ω)	2.2 K
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	- 54 ± 3 (at L = 50 cm)
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.5 V
S / N Ratio	(dB)	More than 55

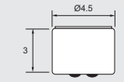
- Frequency Response



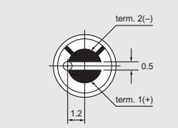
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

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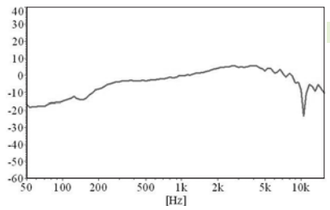
– N9752 Noise Cancelling Electret Condenser Microphone

- electrical specifications

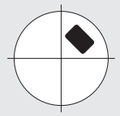
Model		N9752BA544
Directivity		Noise Cancelling
Operating Voltage Range	(V)	1 ~ 10
Power Supply (Vs)	(V)	1.5
Resistance Loading (RL)	(Ω)	680
Sensitivity (0 dB = 1V / Pa) at 1K Hz	(dB)	- 54 ± 4 (at L = 50 cm)
Max. Current	(mA)	0.5
Frequency Range	(Hz)	100 ~ 10000
Voltage Deduction Characteristic		Within 3 dB at 1.1 V
S / N Ratio	(dB)	More than 55

- Frequency Response

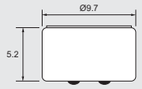


- dimensions

Top View



Side View



Bottom View

all dimensions are in mm

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09. Speaker

- Mylar Speaker
- Loud Speaker
- Notebook Speaker

DB Products Limited

- selection guide

Mylar Speaker

DB Series	Model	Diameter (mm)	Height (mm)	Impedance (Ω)	Sound Output (dB)	Resonance Frequency (f0) (Hz)	Respose Frequency f0~(Hz)	Rated Power (W)	Max Power (W)	Page No.
UM1313IA	UM1313IA085008	13 x 13	4	8	88 ± 3	850	20000	0.7	1	093
UM1511IA	UM1511IA085008	15 x 11	2.9	8	86 ± 3	850	20000	0.5	0.8	093
UM1515IA	UM1515IA080008	15 x 15	4	8	87 ± 3	800	20000	0.5	0.8	093
M13IG	M13IG090008	Ø 13	4.6	8	90 ± 3	900	10000	0.5	0.8	094
M15IQ	M15IQ090008	Ø 15	4.6	8	88 ± 3	900	12000	0.5	0.8	094
M17II	M17II080008	Ø 17	3.9	8	90 ± 3	800	10000	0.8	1	094
M20IA	M20IA060008	Ø 20	3	8	80 ± 3	800	20000	0.3	0.5	095
M28IA	M28IA070008	Ø 28	4.9	8	83 ± 3	700	10000	1	1.5	095
M36IH	M36IH050008	Ø 36	4.9	8	90 ± 3	500	10000	0.5	0.8	095
M40IE	M40IE060008	Ø 40	5	8	96 ± 3	600	15000	1	1.5	096
OM1813IA	OM1813IA085008	18 x 13	3.5	8	89 ± 3	850	10000	0.8	1	096

Loud Speaker

DB Series	Model	Diameter (mm)	Height (mm)	Impedance (Ω)	Sound Output (dB)	Resonance Frequency (f0) (Hz)	Respose Frequency f0~(Hz)	Rated Power (W)	Max Power (W)	Page No.
L40IA	L40IA070008	Ø 40	6.55	8	92 ± 3	700	4800	0.5	0.8	096
L50IL	L50IL045008	Ø 50	12.2	8	85 ± 3	450	5000	1	1.5	097
L66IA	L66IA038008	Ø 66	12.5	8	95 ± 3	380	4000	0.5	0.8	097

Notebook Speaker

DB Series	Model	Diameter (mm)	Height (mm)	Impedance (Ω)	Sound Output (dB)	Resonance Frequency (f0) (Hz)	Respose Frequency f0~(Hz)	Rated Power (W)	Max Power (W)	Page No.
N25IA	N25IA090008	25 x 14.9	5	8	82 ± 3	900	20000	0.5	1	097
N40IA	N40IA045008	40 x 20	8	8	89 ± 3	450	20000	1	2	098

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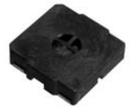
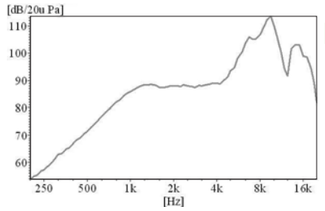
– UM1313IA Mylar Speaker



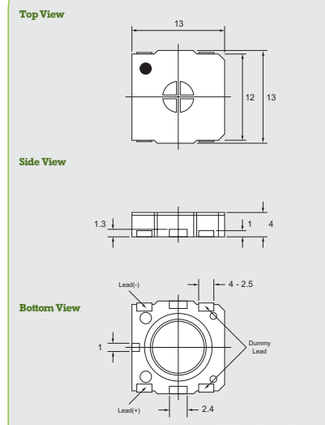
- Frequency Response



- electrical specifications

Model		UM1313IA085008
Rated Power	(W)	0.7
Max Power	(W)	1
Impedance ± 20 % at 2KHz	(Ω)	8
Sound Output	(dB)	88 ± 3
R. Frequency ± 15 %	(Hz)	850
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 30 ~ + 85
Weight	(g)	1.4

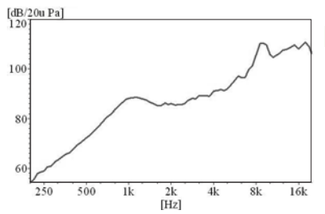
- dimensions



all dimensions are in mm

– UM1511IA Mylar Speaker

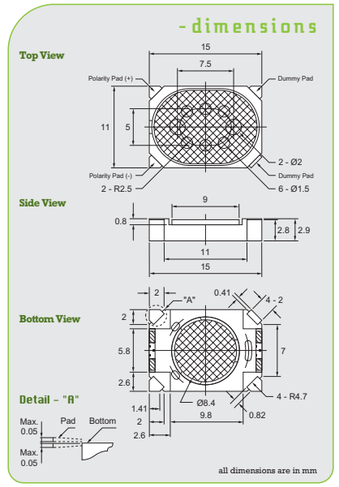
- Frequency Response



- electrical specifications

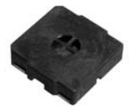
Model		UM1511IA085008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 20 % at 2KHz	(Ω)	8
Sound Output	(dB)	86 ± 3
R. Frequency ± 15 %	(Hz)	850
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	1

- dimensions

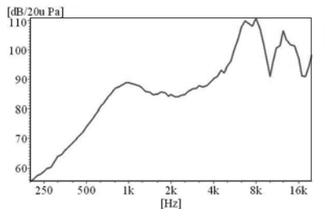


all dimensions are in mm

– UM1515IA Mylar Speaker



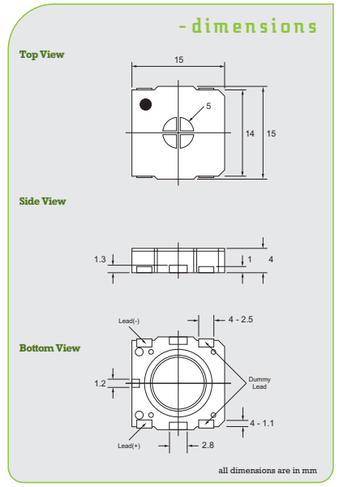
- Frequency Response



- electrical specifications

Model		UM1515IA080008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 20 % at 2KHz	(Ω)	8
Sound Output	(dB)	87 ± 3
R. Frequency ± 15 %	(Hz)	800
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 30 ~ + 85
Weight	(g)	1.5

- dimensions



all dimensions are in mm

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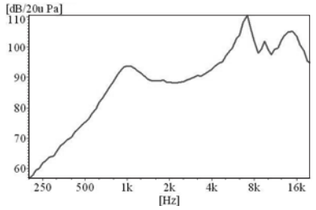
– M13IG Mylar Speaker

- electrical specifications

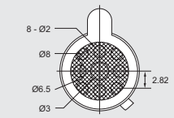
Model		M13IG090008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 15 % at 1.5KHz	(Ω)	8
Sound Output	(dB)	90 ± 3
R. Frequency ± 20 %	(Hz)	900
Response Frequency	(Hz)	250 ~ 10 K
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	1.3

- Frequency Response

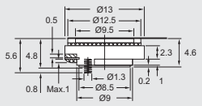


- dimensions

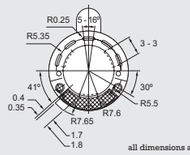
Top View



Side View



Bottom View



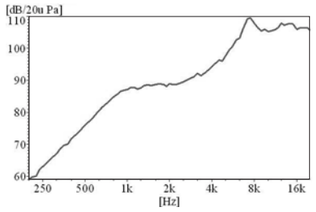
all dimensions are in mm

– M15IQ Mylar Speaker

- electrical specifications

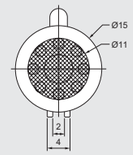
Model		M15IQ090008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 15 % at 2.5KHz	(Ω)	8
Sound Output	(dB)	88 ± 3
R. Frequency ± 20 %	(Hz)	900
Response Frequency	(Hz)	700 ~ 12 K
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	2

- Frequency Response

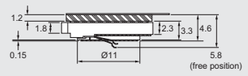


- dimensions

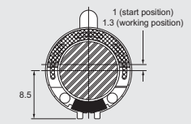
Top View



Side View



Bottom View



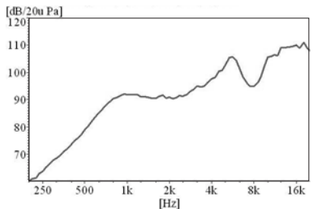
all dimensions are in mm

– M17II Mylar Speaker

- electrical specifications

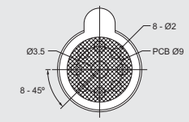
Model		M17II080008
Rated Power	(W)	0.8
Max Power	(W)	1
Impedance ± 15 % at 1.5KHz	(Ω)	8
Sound Output	(dB)	90 ± 3
R. Frequency ± 20 %	(Hz)	800
Response Frequency	(Hz)	250 ~ 10 K
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	1.5

- Frequency Response

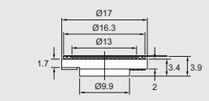


- dimensions

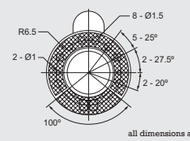
Top View



Side View



Bottom View



all dimensions are in mm

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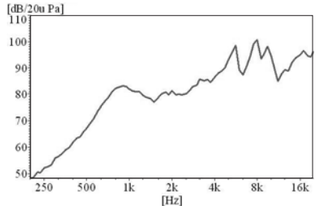
– M20IA Mylar Speaker

- electrical specifications

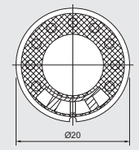
Model		M20IA080008
Rated Power	(W)	0.3
Max Power	(W)	0.5
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	80 ± 3
R. Frequency ± 20 %	(Hz)	800
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	2.4

- Frequency Response

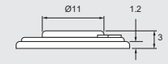


- dimensions

Bottom View



Side View



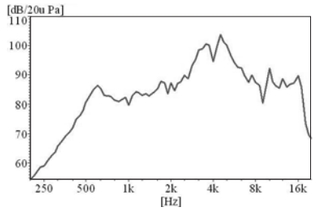
all dimensions are in mm

– M28IA Mylar Speaker

- electrical specifications

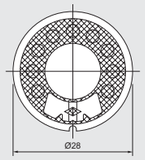
Model		M28IA070008
Rated Power	(W)	1
Max Power	(W)	1.5
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	83 ± 3
R. Frequency ± 20 %	(Hz)	700
Response Frequency f0 to	(Hz)	10 K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	5.8

- Frequency Response

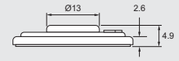


- dimensions

Bottom View



Side View



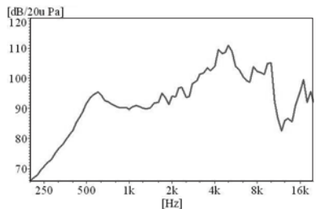
all dimensions are in mm

– M36IH Mylar Speaker

- electrical specifications

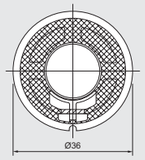
Model		M36IH050008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	90 ± 3
R. Frequency ± 20 %	(Hz)	500
Response Frequency f0 to	(Hz)	10 K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	8.6

- Frequency Response

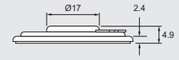


- dimensions

Bottom View



Side View



all dimensions are in mm

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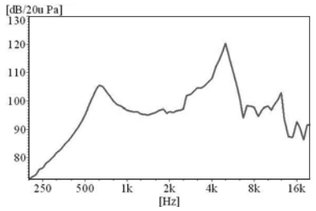
– M40IE Mylar Speaker

- electrical specifications

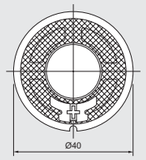
Model		M40IE060008
Rated Power	(W)	1
Max Power	(W)	1.5
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	96 ± 3
R. Frequency ± 20 %	(Hz)	600
Response Frequency f0 to	(Hz)	15 K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	9.5

- Frequency Response

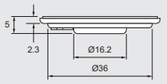


- dimensions

Bottom View



Side View



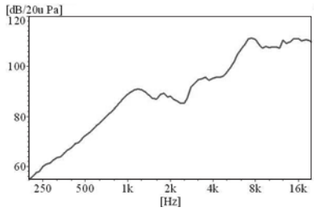
all dimensions are in mm

– OM1813IA Mylar Speaker

- electrical specifications

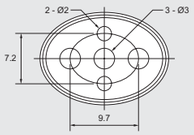
Model		OM1813IA085008
Rated Power	(W)	0.8
Max Power	(W)	1
Impedance ± 15 % at 1.5KHz	(Ω)	8
Sound Output	(dB)	89 ± 3
R. Frequency ± 20 %	(Hz)	850
Response Frequency	(Hz)	200 ~ 10 K
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	1.3

- Frequency Response



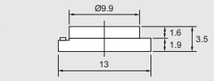
- dimensions

Top View

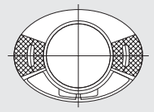


Side View 1

Side View 2



Bottom View



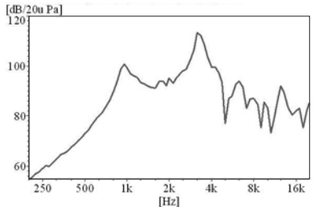
all dimensions are in mm

– L40IA Loud Speaker

- electrical specifications

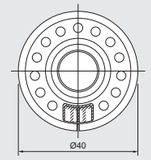
Model		L40IA070008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	92 ± 3
R. Frequency ± 20 %	(Hz)	700
Response Frequency f0 to	(Hz)	4.8 K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	9.1

- Frequency Response

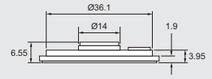


- dimensions

Bottom View



Side View



all dimensions are in mm

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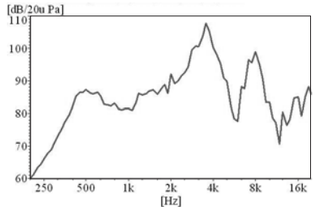
– L50IL Loud Speaker

- electrical specifications

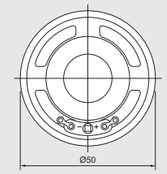
Model		L50IL045008
Rated Power	(W)	1
Max Power	(W)	1.5
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	85 ± 3
R. Frequency ± 20 %	(Hz)	450
Response Frequency f0 to	(Hz)	5 K
Operating Temperature	(°C)	- 20 ~ + 60
Weight	(g)	14.8

- Frequency Response

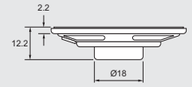


- dimensions

Bottom View



Side View



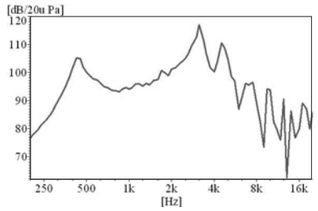
all dimensions are in mm

– L66IA Loud Speaker

- electrical specifications

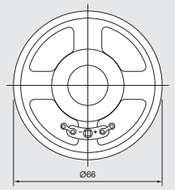
Model		L66IA038008
Rated Power	(W)	0.5
Max Power	(W)	0.8
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	95 ± 3
R. Frequency ± 20 %	(Hz)	380
Response Frequency f0 to	(Hz)	4K
Operating Temperature	(°C)	- 20 ~ + 55
Weight	(g)	17.2

- Frequency Response

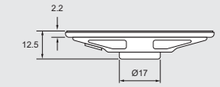


- dimensions

Bottom View



Side View



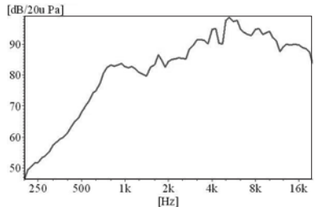
all dimensions are in mm

– N25IA Notebook Speaker

- electrical specifications

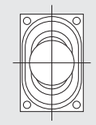
Model		N25IA090008
Rated Power	(W)	0.5
Max Power	(W)	1
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	82 ± 3
R. Frequency ± 20 %	(Hz)	900
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 20 ~ + 50
Weight	(g)	2

- Frequency Response

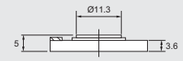


- dimensions

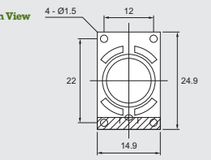
Top View



Side View



Bottom View



all dimensions are in mm

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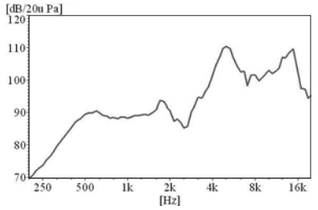
– N401A Notebook Speaker

- Frequency Response

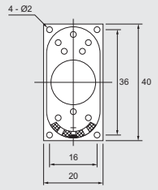


- electrical specifications

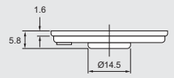
Model		N40IA045008
Rated Power	(W)	1
Max Power	(W)	2
Impedance ± 15 % at 1KHz	(Ω)	8
Sound Output	(dB)	89 ± 3
R. Frequency ± 20 %	(Hz)	450
Response Frequency f0 to	(Hz)	20 K
Operating Temperature	(°C)	- 40 ~ + 70
Weight	(g)	7.6

- dimensions

Bottom View



Side View



all dimensions are in mm

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10. Receiver

– Dynamic Receiver

DB Products Limited

- selection guide

Dynamic Receiver

DB Series	Model	Diameter (mm)	Height (mm)	AC. Impedance (Ω)	Sensitivity at 1KHz (dB)	Frequency Range (Hz)	Input Power	Page No.
J10B	J10B106032	Ø 10	2.4	32	106 ± 3	300 ~ 4000	100 mV	101
H28A	H28A093150	Ø 28	7.3	150	93 ± 3	300 ~ 4000	60 mV	101
J35A	J35A110150	Ø 35	17.6	150	94 ± 3	300 ~ 3400	1 mW	101
H38A	H38A096150	Ø 38	21.2	150	96 ± 3	300 ~ 3400	60 mV	102
RJ1506D	RJ1506D107032	15 x 6	2.5	32	107 ± 3	300 ~ 3400	180 mV	102

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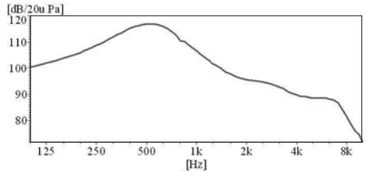
– J10B Dynamic Receiver

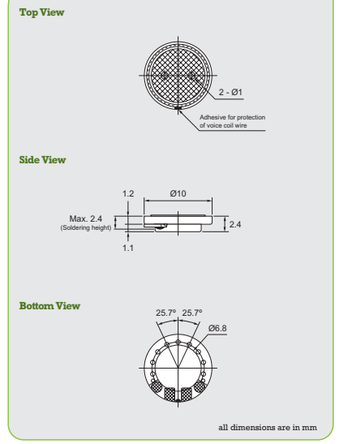
- electrical specifications

Model		J10B106032
Sensitivity at 1K Hz (IEC318 COUPLER)	(dB)	106 ± 3
Input at 1KHz	(V)	100 m
Impedance at 1 KHz	(Ω)	32 ± 4.8
Frequency range	(Hz)	300 ~ 4000
Operating Temperature	(℃)	- 20 ~ + 60
Weight	(g)	0.7

- Frequency Response



- dimensions



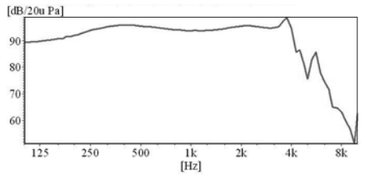
all dimensions are in mm

– H28A Dynamic Receiver

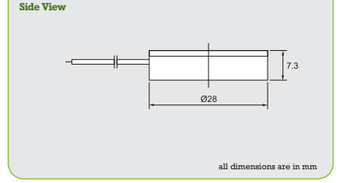
- electrical specifications

Model		H28A093150
Sensitivity at 1K Hz (IEC318 COUPLER)	(dB)	93 ± 3
Input at 1KHz	(V)	60 m
Impedance at 1 KHz	(Ω)	150 ± 20 %
Frequency range	(Hz)	300 ~ 4000
Operating Temperature	(℃)	- 20 ~ + 60
Weight	(g)	8

- Frequency Response



- dimensions



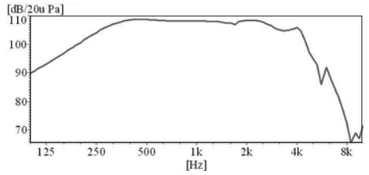
all dimensions are in mm

– J35A Dynamic Receiver

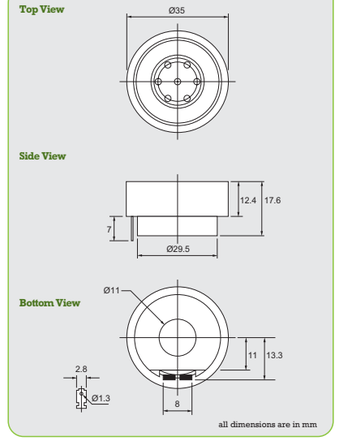
- electrical specifications

Model		J35A110150
Sensitivity at 1K Hz (IEC318 COUPLER)	(dB)	110 ± 3
Input at 1KHz	(W)	1 m
Impedance at 1 KHz	(Ω)	150 ± 20 %
Frequency range	(Hz)	300 ~ 3400
Operating Temperature	(℃)	- 20 ~ + 60
Weight	(g)	35

- Frequency Response



- dimensions



all dimensions are in mm

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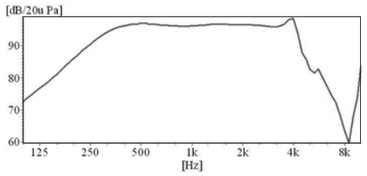
Receiver

– H38A Dynamic Receiver

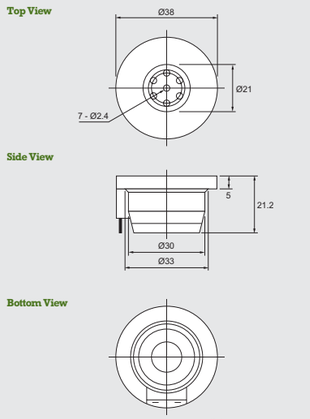
- electrical specifications

Model		H38A096150
Sensitivity at 1K Hz (IEC318 COUPLER)	(dB)	96 ± 3
Input at 1KHz	(V)	60 m
Impedance at 1 KHz	(Ω)	150 ± 20 %
Frequency range	(Hz)	300 ~ 4000
Operating Temperature	(°C)	- 20 ~ + 60
Weight	(g)	36

- Frequency Response



- dimensions



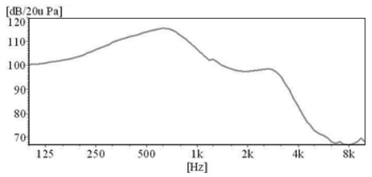
all dimensions are in mm

– RJ1506D Dynamic Receiver

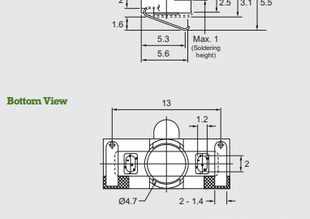
- electrical specifications

Model		RJ1506D107032
Sensitivity at 1K Hz (IEC318 COUPLER)	(dB)	107 ± 3
Input at 1KHz	(V)	180 m
Impedance at 1.5 KHz	(Ω)	32 + 10 / - 20 %
Frequency range	(Hz)	300 ~ 4000
Operating Temperature	(°C)	- 30 ~ + 70
Weight	(g)	0.7

- Frequency Response



- dimensions



all dimensions are in mm

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11. Ultrasonic

- Asymmetric Ultrasonic Sensor
- Symmetric Ultrasonic Sensor
- Open Structure Ultrasonic Sensor
- Shock Sensor
- Ultrasonic Atomizing Transducer

DB Products Limited

- selection guide

Asymmetric Ultrasonic Sensor

DB Series	Model	Construction	Function	Diameter (Ømm)	Height (mm)	Sound Pressure Level (dB)	Sensitivity (dB)	Center Frequency (Hz)	Capacitance (pF) ± 15 %	Page No.
USWA12A	USWA12A08	Waterproof Type	Dual Use	12	8	Min. 95	Min. -82	40000	1800	105
USWA14A	USWA14A09	Waterproof Type	Dual Use	14	9	Min. 95	Min. -82	40000	1800	105
USWA15A	USWA15A09	Waterproof Type	Dual Use	15	9	Min. 95	Min. -82	40000	1800	105

Symmetric Ultrasonic Sensor

DB Series	Model	Construction	Function	Diameter (Ømm)	Height (mm)	Sound Pressure Level (dB)	Sensitivity (dB)	Center Frequency (Hz)	Capacitance (pF) ± 15 %	Page No.
USWS14A	USWS14A09	Waterproof Type	Dual Use	14	9	Min. 95	Min. -82	40000	1800	106
USWS16A	USWS16A12	Waterproof Type	Dual Use	16	12	Min. 100	Min. -82	40000	1800	106
USWS18A	USWS18A12	Waterproof Type	Dual Use	18	12	Min. 100	Min. -82	40000	1800	106

Open Structure Ultrasonic Sensor

DB Series	Model	Construction	Function	Diameter (Ømm)	Height (mm)	Sound Pressure Level (dB)	Sensitivity (dB)	Center Frequency (Hz)	Capacitance (pF) ± 20 %	Page No.
USO10A	USO10A07	Open Type	Dual Use	9.8	7	Min. 100	Min. -70	40000	1400	107
USO16A	USO16A12	Open Type	Transmiter	16.2	12.2	Min. 118	-	40000	2100	107
USO16A	USO16A12	Open Type	Receiver	16.2	12.2	-	Min. -60	40000	2100	107
USO16B	USO16B12	Open Type	Dual Use	16	12	Min. 115	Min. -65	40000	2100	108

Shock Sensor

DB Series	Model	Diameter (Ømm)	Height (mm)	Output Voltage	Capacitance (pF)	Insulation Resistance (Ω)	Page No.
SST24	SST24045	24	4.5	40.0 mVp / G typ. (25 °C, 20.0 M Ω Load, 10 ~ 1000 Hz)	12000	Min. 100M	108

Ultrasonic Atomizing Transducer

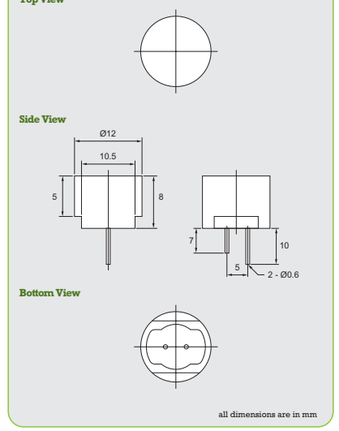
DB Series	Model	Diameter (Ømm)	Height (mm)	Thick Resonant Frequency (Hz)	Static Capacitance (pF)	Resonant Impedance (Ω)	Page No.
AS15	AS15040103K	15	4	103K	550	< 30	108
AS20	AS20012017M	20	1.23	1.7 M	1500	< 1	109
AS30	AS30058016M	30	6.2	1.66 M	1700	< 2	109

– USWA12A Asymmetric Ultrasonic Sensor

- electrical specifications

Model		USWA12A08
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 95
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions



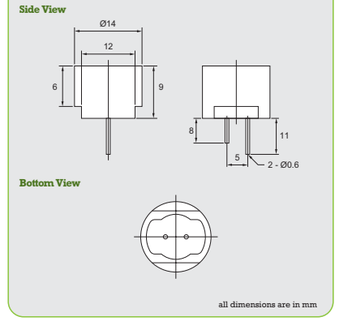
all dimensions are in mm

– USWA14A Asymmetric Ultrasonic Sensor

- electrical specifications

Model		USWA14A09
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 95
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions



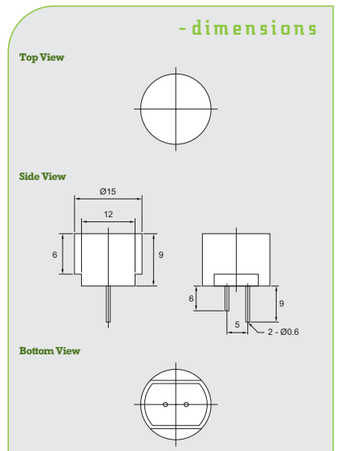
all dimensions are in mm

– USWA15A Asymmetric Ultrasonic Sensor

- electrical specifications

Model		USWA15A09
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 95
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions



all dimensions are in mm

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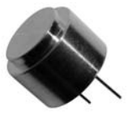
– USWS14A Symmetric Ultrasonic Sensor



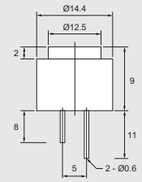
- electrical specifications

Model		USWS14A09
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 95
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions

Top View

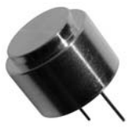
Side View



Bottom View

all dimensions are in mm

– USWS16A Symmetric Ultrasonic Sensor



- electrical specifications

Model		USWS16A12
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 100
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions

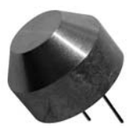
Top View

Side View

Bottom View

all dimensions are in mm

– USWS18A Symmetric Ultrasonic Sensor



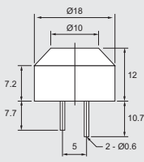
- electrical specifications

Model		USWS18A12
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 100
Sensitivity (v / ubar)	(dB)	Min. - 82
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1800 ± 15 %
Allowable Input Voltage	(p-p)	140V (40 KHz) Pulse width 0.5 ms / Interval 20 ms
Operating Temperature	(°C)	- 40 ~ + 80
Weight	(g)	3

- dimensions

Top View

Side View



Bottom View

all dimensions are in mm

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– USO10A Open Structure Ultrasonic Sensor

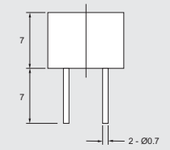
- electrical specifications

Model		USO10A07
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 100
Sensitivity (v / ubar)	(dB)	Min. - 70
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	1400 ± 20 %
Operating Temperature	(°C)	- 20 ~ + 70
Weight	(g)	2

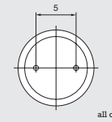
- dimensions

Top View

Side View



Bottom View



all dimensions are in mm

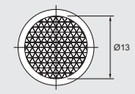
– USO16A Open Structure Ultrasonic Sensor

- electrical specifications

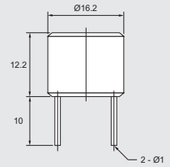
Model		USO16A12T
Function		Transmiter
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 118
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	2100 ± 20 %
Operating Temperature	(°C)	- 20 ~ + 70
Weight	(g)	3

- dimensions

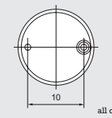
Top View



Side View



Bottom View



all dimensions are in mm

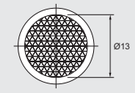
– USO16A Open Structure Ultrasonic Sensor

- electrical specifications

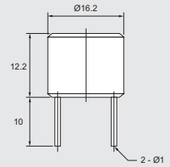
Model		USO16A12R
Function		Receiver
Sensitivity (v / ubar)	(dB)	Min. - 60
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	2100 ± 20 %
Operating Temperature	(°C)	- 20 ~ + 70
Weight	(g)	3

- dimensions

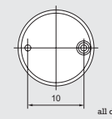
Top View



Side View



Bottom View



all dimensions are in mm

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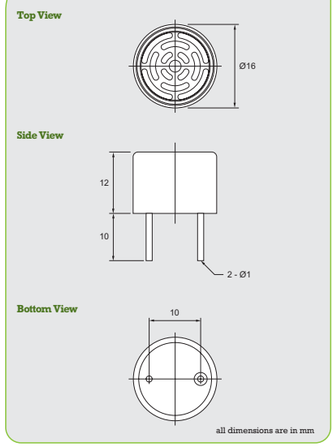
– USO16B Open Structure Ultrasonic Sensor

- electrical specifications

Model		USO16B12
Function		Transmiter & Receiver
Sound Pressure Level (0dB = 0.0002 ubar)	(dB)	Min. 115
Sensitivity (v / ubar)	(dB)	Min. - 65
Center Frequency	(Hz)	40000 ± 1000
Capcitance at 1KHz	(pF)	2100 ± 20 %
Operating Temperature	(°C)	- 20 ~ + 70
Weight	(g)	2

- dimensions



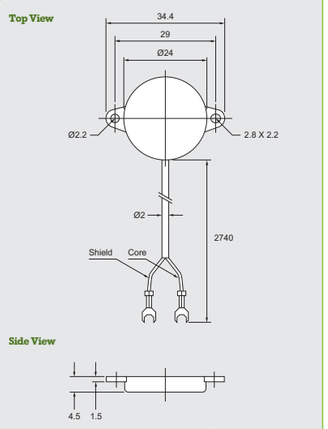
all dimensions are in mm

– SST24 Shock Sensor

- electrical specifications

Model		SST24045
Output Voltage		40 mVp / G typ. (25 °C, 20 M Ω Load, 10 ~ 1000 Hz)
Capacitance at 1000 Hz / 1 V	(pF)	12000 pF ± 30 %
Insulation Resistance	(Ω)	100 M Min.
Operating Temperature	(°C)	- 20 ~ + 70
Weight	(g)	24.6

- dimensions



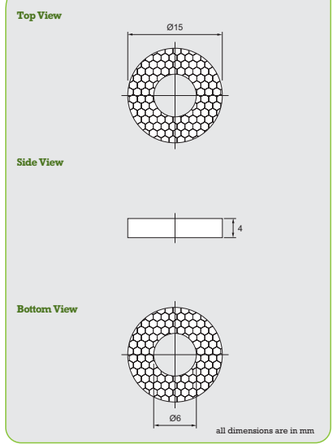
all dimensions are in mm

– AS15 Ultrasonic Atomizing Transducer

- electrical specifications

Model		AS15040103K
Thick Resonant Frequency	(KHz)	103 ± 3
Resonant Impedance	(Ω)	< 30
Static Capacitance at 1000 Hz / 1 V	(pF)	550 ± 20 %
Electrical - Mechanical Coupling Coefficient	(Ke)	> 0.32
Operating Temperature	(°C)	- 20 ~ + 60

- dimensions



all dimensions are in mm

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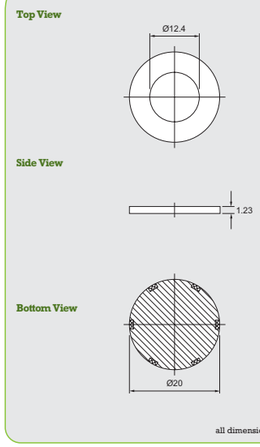
– AS20 Ultrasonic Atomizing Transducer

- electrical specifications

Model		AS20012017M
Thick Resonant Frequency	(MHz)	1.7 ± 0.05
Resonant Impedance	(Ω)	< 1
Static Capacitance at 1000 Hz / 1 V	(pF)	1500 pF ± 20 %
Electrical - Mechanical Coupling Coefficient	(Kt)	> 0.45
Operating Temperature	(°C)	- 20 ~ + 60

- dimensions



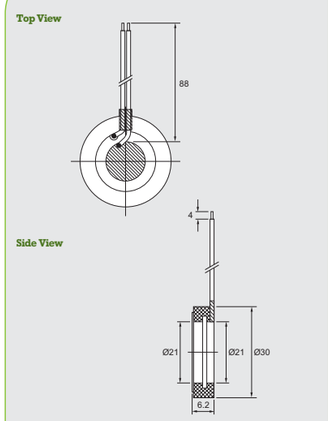
all dimensions are in mm

– AS30 Ultrasonic Atomizing Transducer

- electrical specifications

Model		AS30058016M
Thick Resonant Frequency	(MHz)	1.66 ± 0.05
Resonant Impedance	(Ω)	< 2
Static Capacitance at 1000 Hz / 1 V	(pF)	1700 pF ± 20 %
Electrical - Mechanical Coupling Coefficient	(Kt)	> 0.45
Operating Temperature	(°C)	- 20 ~ + 60

- dimensions



all dimensions are in mm

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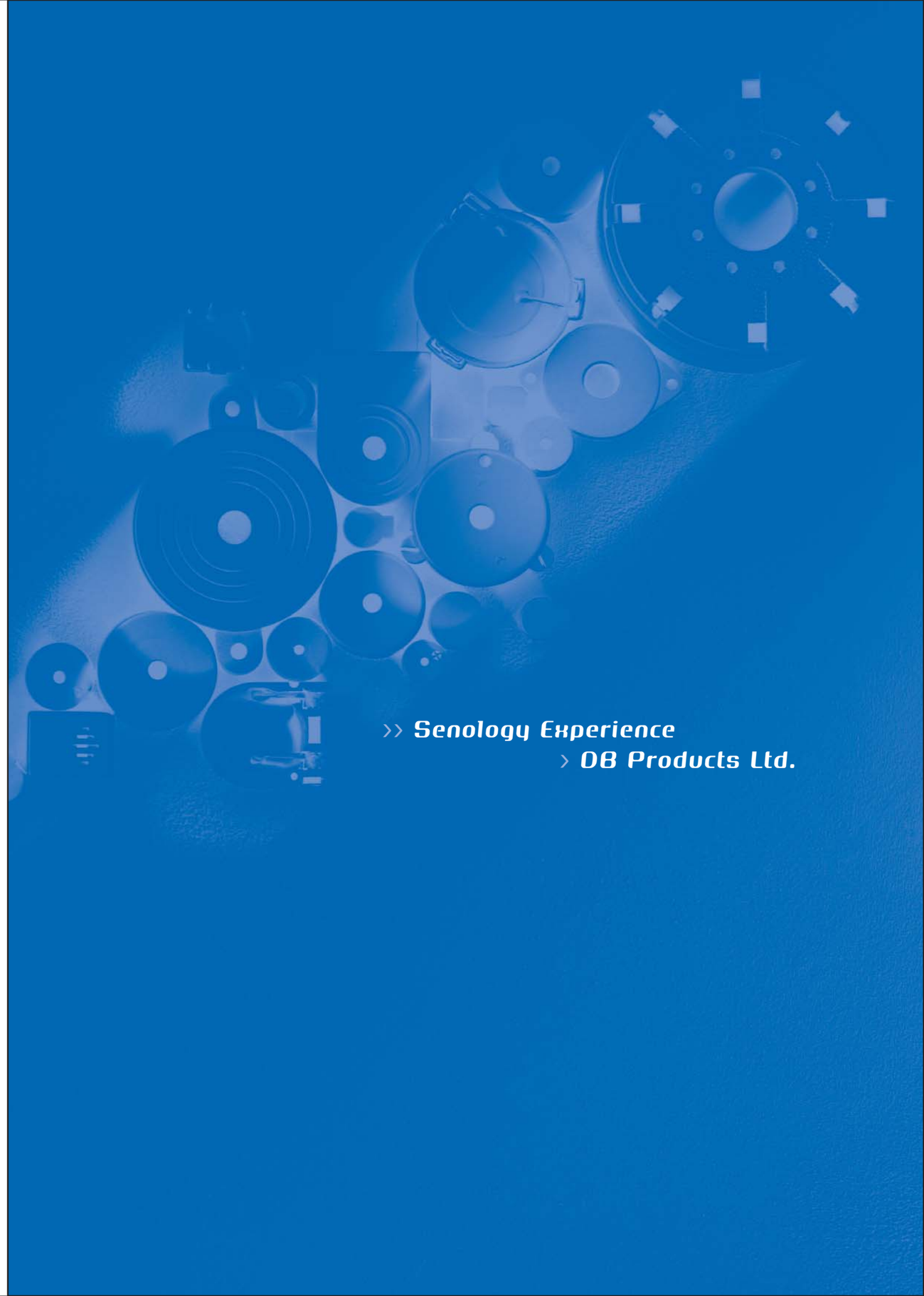

›› Senology Experience

› OB Products Ltd.

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Transducer
- Magnetic Transducer
- External Drive Piezo Transducer
- Self Drive Piezo Transducer

Buzzer
- Magnetic Buzzer
- Mechanical Buzzer
- Piezo Buzzer

Piezo Element
- External Drive Piezo Element
- Self Drive Piezo Element

Microphone
- MEMS Microphone
- Back Electret Condenser Microphone
- Omnidirectional Electret Condenser Microphone
- Unidirectional Electret Condenser Microphone
- Noise Cancelling Electret Condenser Microphone

Speaker
- Mylar Speaker
- Loud Speaker
- Notebook Speaker

Receiver
- Dynamic Receiver

Ultrasonic
- Asymmetric Ultrasonic Sensor
- Symmetric Ultrasonic Sensor
- Open Structure Ultrasonic Sensor
- Shock Sensor
- Ultrasonic Atomizing Transducer

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