

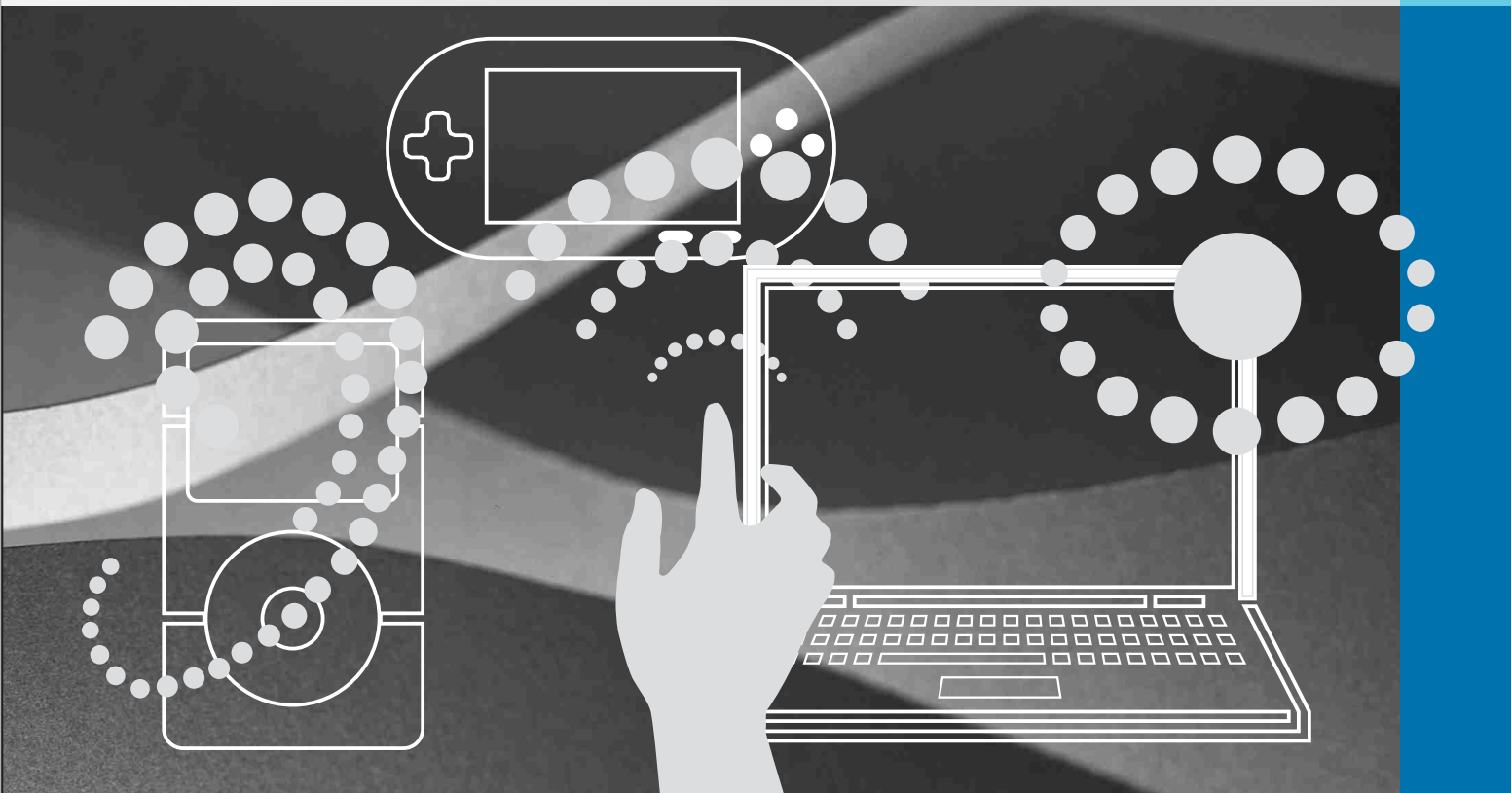


AAC Acoustic Technologies Holdings Inc.

www.aacacoustic.com

Dynamic Miniature Speaker
Ceramic Speaker
Speaker Module
Multi-Function Device
Miniature Receiver
Microphone
Haptics/Vibrator
Transducer
Ceramic Products

2010-2011 Product Catalog





AAC Product Catalog 2010-2011



INTRODUCTION

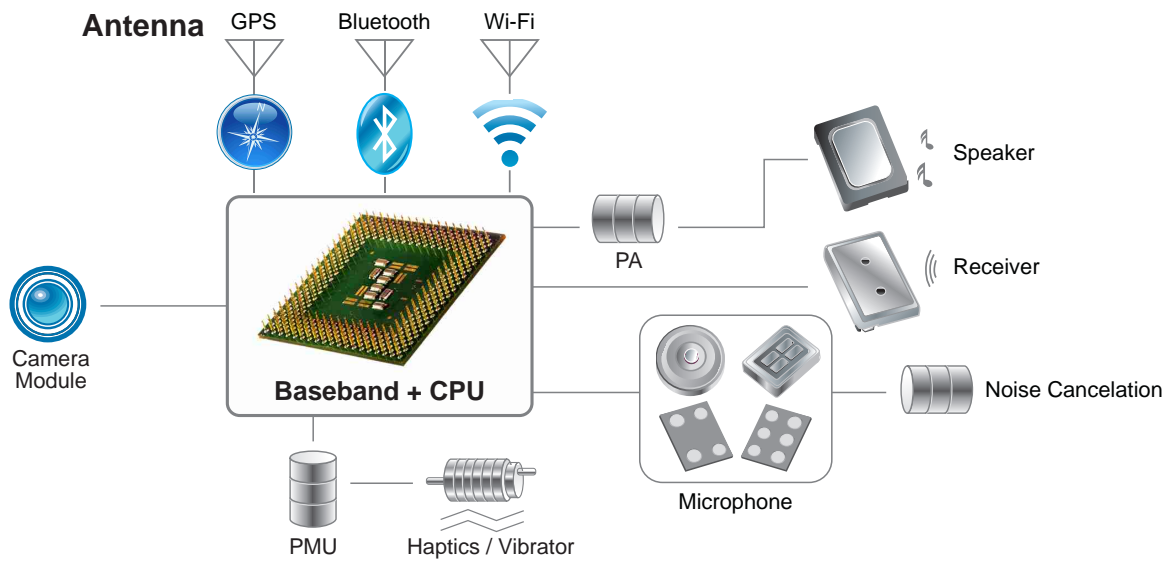
AAC ACOUSTIC TECHNOLOGIES HOLDINGS INC.

AAC Acoustic Technologies Holdings Inc. (HKSE:2018) is one of the world's leading miniature acoustic solution provider specialize in design, manufacture and distribution of receivers, speakers, speaker modules, multi-function devices, microphones, transducers and headsets used in a wide range of mobile handsets, notebook computers, game consoles, automobiles, LCD/LED TVs and many other consumer electronics devices. Headquartered in Shenzhen China, the company has approximately 13,000 employees with sales and R&D offices around the globe, serving key direct customers include Nokia, Motorola, Sony-Ericsson, Samsung, LG, RIM, HTC etc.

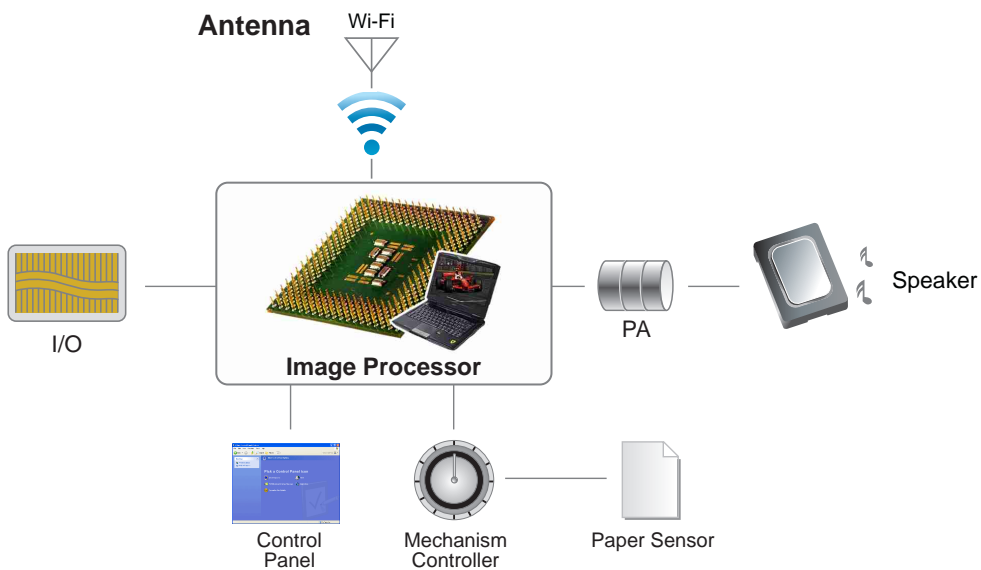
Please turn over this catalogue to learn more about AAC products and solutions, For more information about AAC Acoustic Technologies Holding Inc, please visit : <http://www.aacacoustic.com>

MOBILE	ELECTRONICS	PORTABLE MEDIA	APPLIANCES	AUTOMOTIVE	NAVIGATION
 <p>Mobile Phone</p>	 <p>Notebook PC</p>	 <p>MP3 Player</p>	 <p>Home Appliances</p>	 <p>Car Audio System</p>	 <p>GPS</p>
<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna Antenna (FPC & Ceramic) LC Filters (Ceramic) Wireless Substrate (Ceramic) Vibrators (Linear & Pancake) Haptic Vib. (Ceramic) Camera Module Auto-Focus Mech Zoom Mech LED Substrate (Ceramic) Wafer Lens Transducers 	<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna Vibrators (Linear & Pancake) Haptic Vib. (Ceramic) Camera Module Auto-Focus Mech Zoom Mech LED Substrate (Ceramic) Wafer Lens 	<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna Antenna (FPC & Ceramic) LC Filters (Ceramic) Wireless Substrate (Ceramic) Linear Vibrators Pancake Vibrators Haptic Vibrators (Ceramic) 	<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna Transducers 	<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna 	<ul style="list-style-type: none"> Speakers (Voice Coil & Ceramic) Receivers (Voice Coil) Microphones (ECM & MEMS) Speaker Boxes w/Antenna
					

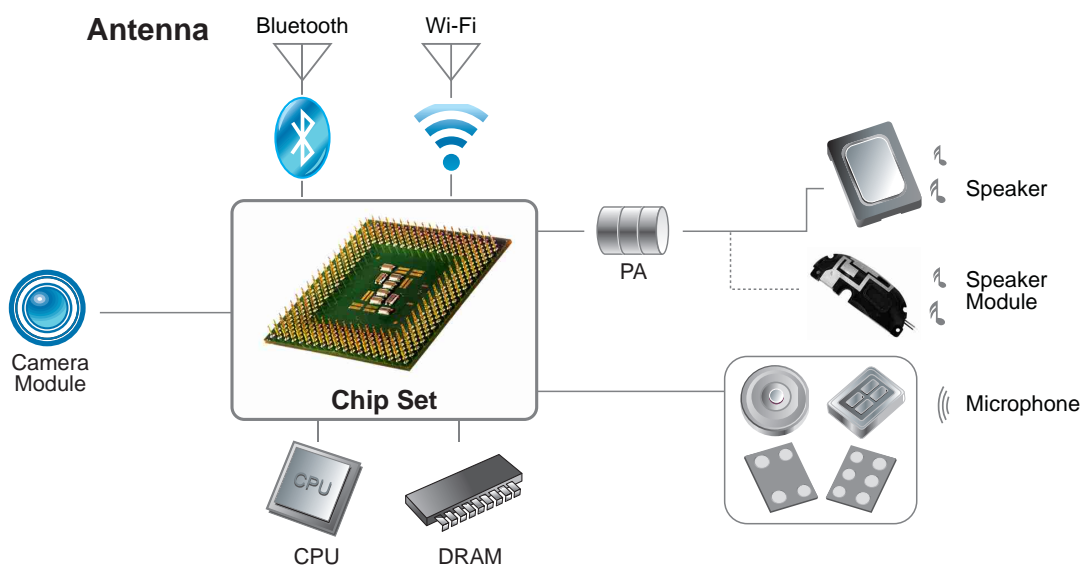
Mobile Phone Solution



E-Book / Tablet PC Solution

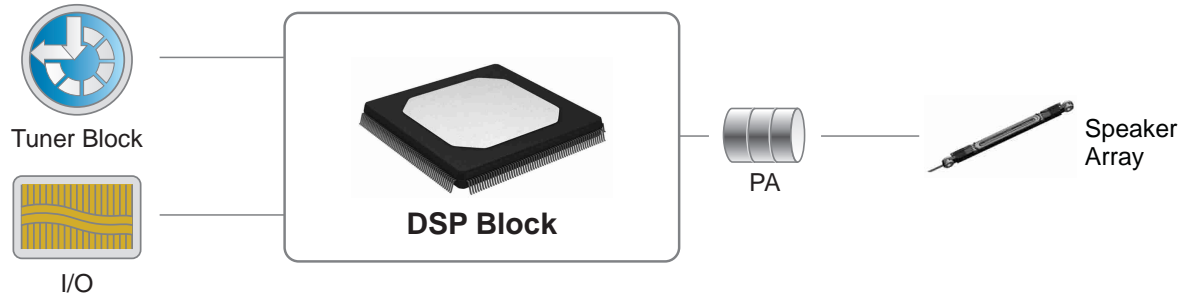


Notebook Solution

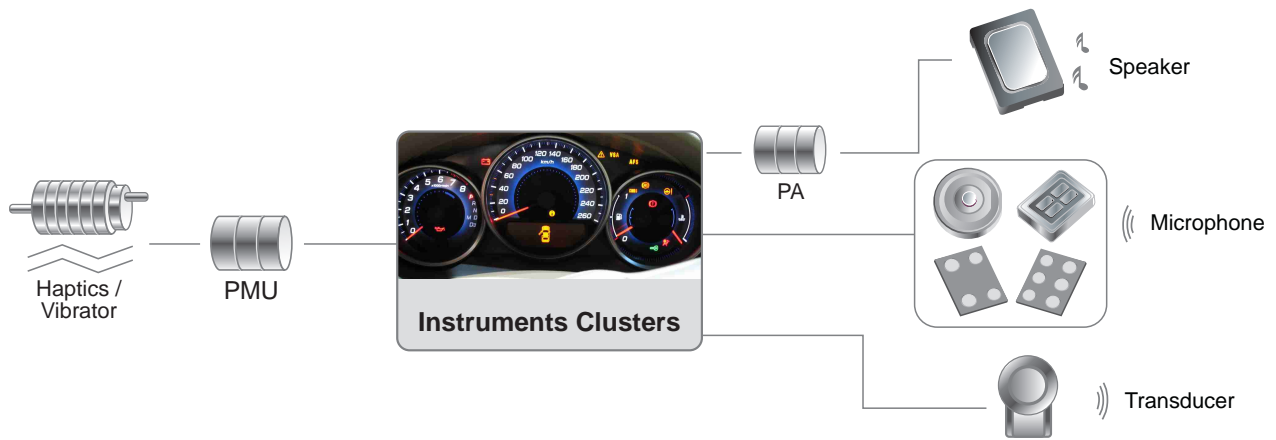


Solution

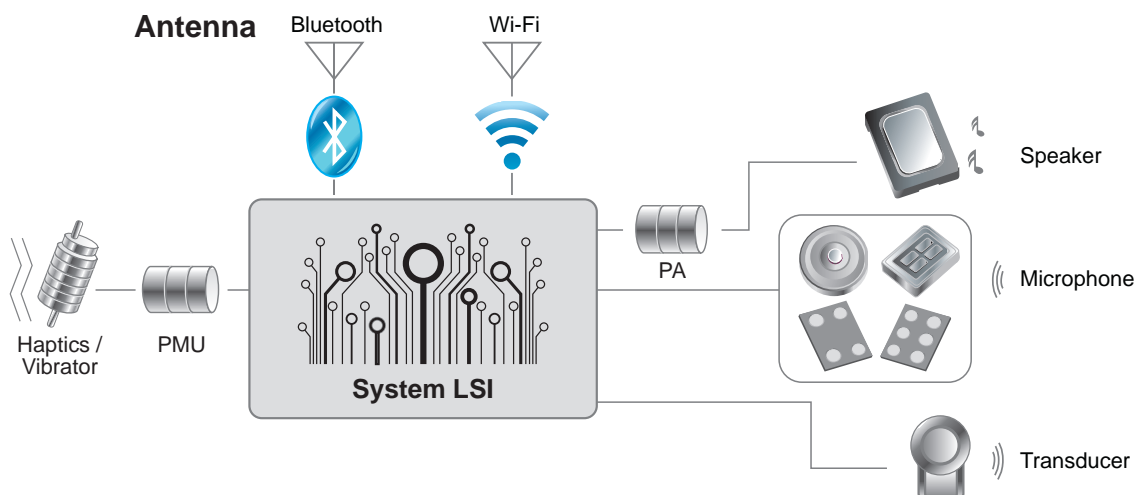
LED TV Solution



Automotives Solution

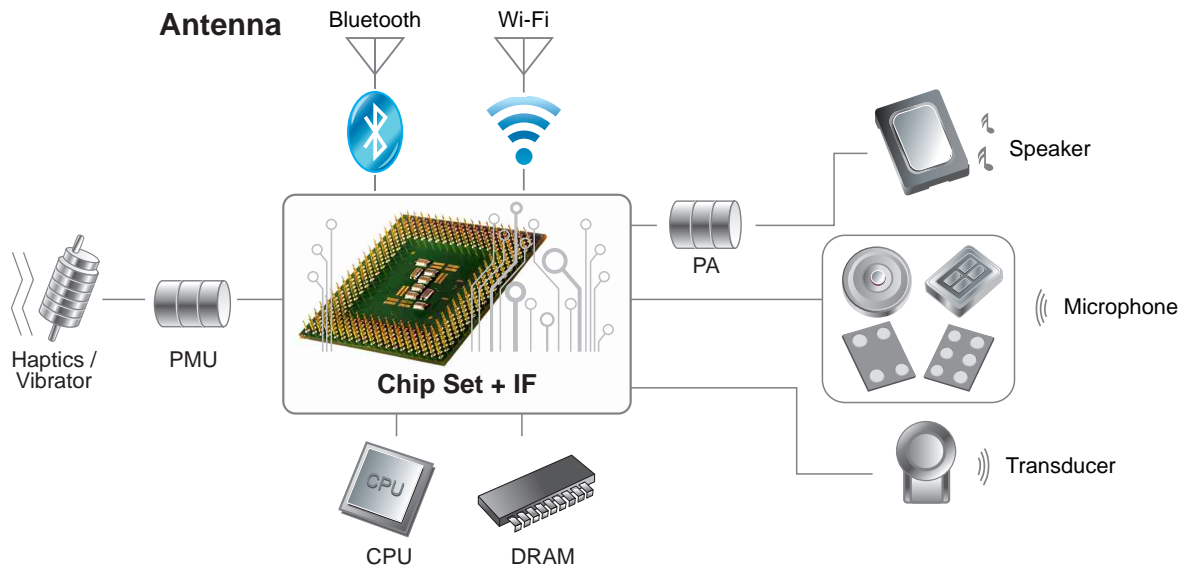


Digital Camera Solution

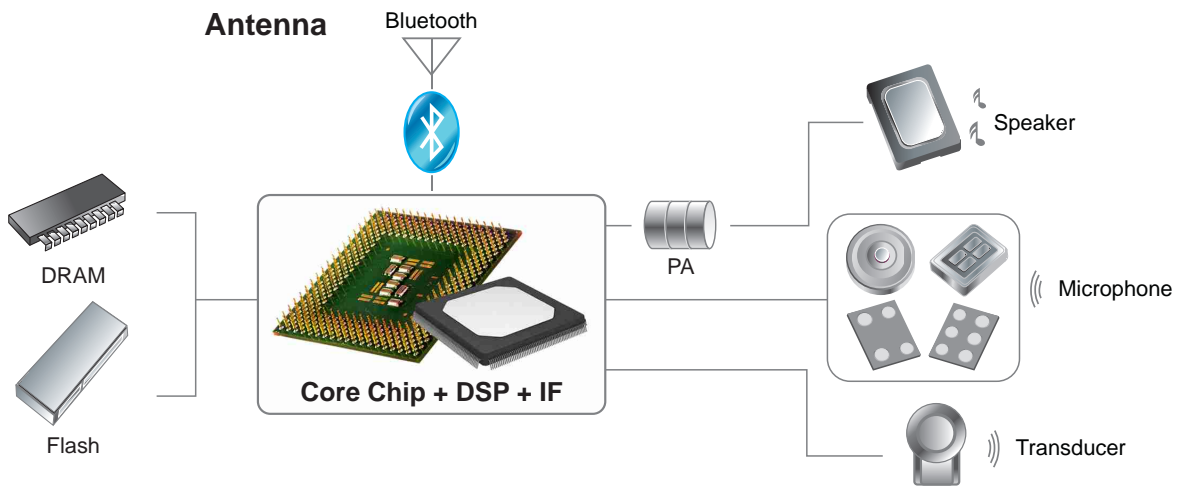


Solution

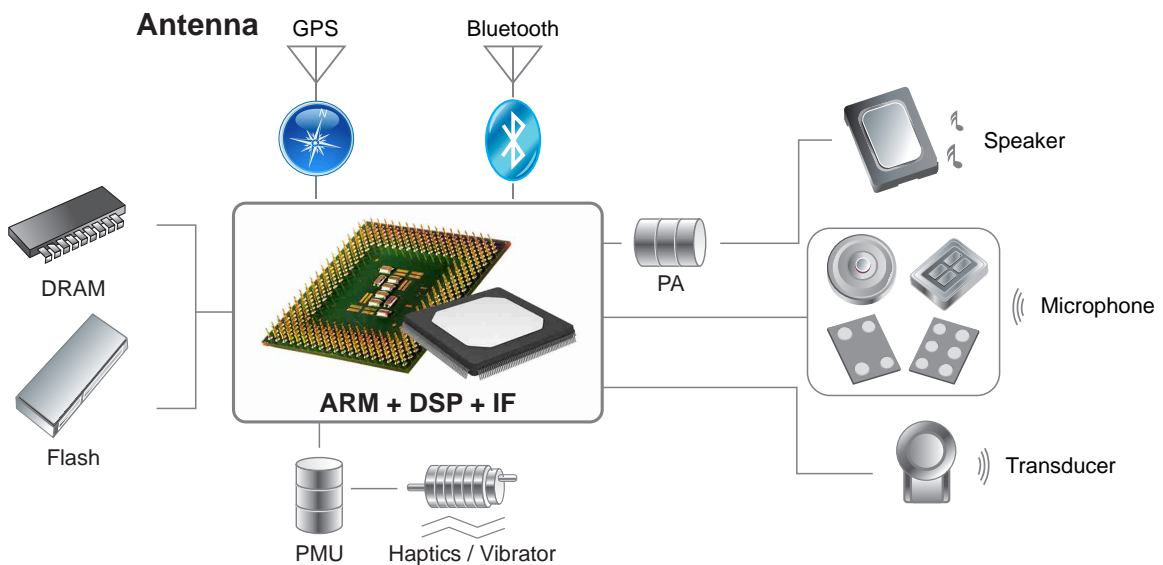
Game Solution



Media Player Solution



Navigation Device Solution



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Dynamic Miniature Speaker

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Multi-Function Device

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MSRV1808D-01-G				p				24
MSRV2008H-01-G				p				24

Miniature Receiver

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SDRP0815FJ02			p	p	p		30
SDRP0815HJ01		p	p	p			30

Contents

Microphone

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ACMG4013-05S		✓						34
ADMG4310-263			✓					34
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PSF2115A-01-F1	✓					51
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ML5306-G				✓		52
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AT(2J)X05311NX			✓			54
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Dynamic Miniature Speaker

P. 11-20

Dynamic Miniature Speaker usually is applied in Multimedia such as laptop, Mobile phone, MP3/MP4, PND etc. As we use cloth diaphragm and voice coil with former, our speaker enable to get higher rated power, lower resonance frequency and better sound quality.

A dynamic small speaker comprises of a diaphragm, voice coil, magnet and frame. It is available in rectangle, round, oval shapes. Some of the speakers use cloth diaphragm and voice coil. This enables the speaker to achieve high rated power with lower resonance frequency and better sound quality. The main parameters describes a speaker's performance including impedance at 2 kHz, rated input power, maximum input power, bass resonance frequency, sensitivity at a certain frequency range and the THD(Total Harmonic Distortion).

Applications: Mobile phones, PNDs, Laptops, MP3/MP4.
Automotives

Dynamic Miniature Speaker Naming

Model numbers of AAC Acoustic Technologies Holdings Inc.- speakers and receivers consist of the following fields:

Product Category + Characteristic + External Diameter + Version Number + Impedance + Contact Method + Performance Serial + Gasket Position + Green Product

Product Category

- Polyphonic Speaker series : DMS
- Miniature Receiver series : SDR

External Diameter

- In mm

Version Number

- Version Number assigned along product development process

Impedance

- In

Contact Method

- PCB - (Omitted) ■ Pin Contact - P ■ Spring Contact - J ■ Wired - W ■ Coil Spring Contact - S
- FPC - F ■ Wire with connector - C

Performance Serial

- Digit showing number of times an internal component has been changed that cause changes in performance

Gasket Position

- F - Gasket in the front
- B - Gasket at the back

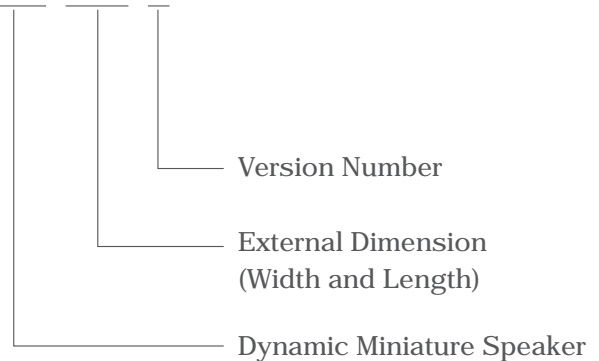
Green Product

- G - Abbreviation of green product

Characteristics

Circular	-
Elliptical	T
Race Track-Shaped	P
Small	W
High Frequency	G
Middle Frequency	Z
Low Frequency	D
Wide Bandwidth	-
Stereo	L
For Automobiles	I
Green Product	G

Example : DSS 1235 C

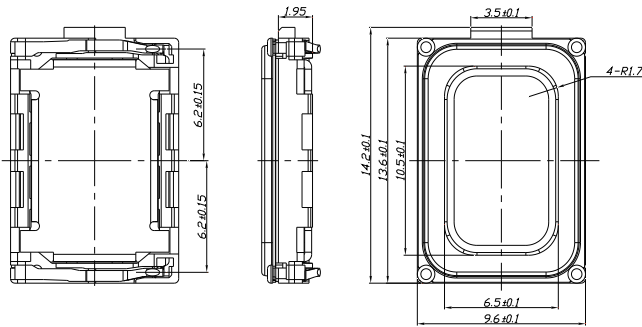




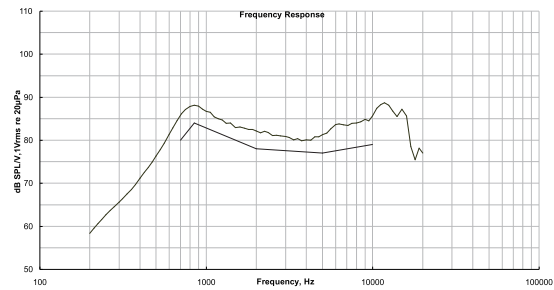
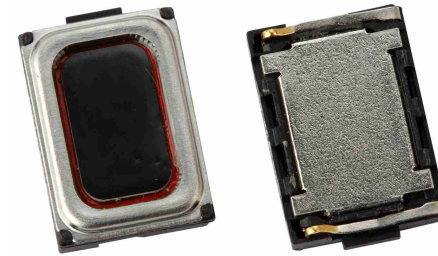
DMSP0913AJ-10-G

Weight : 1.1g

Size(mm): 9.6 x 13.6 x 2.9mm
 Rated Input Power: 0.3W
 Maximum Input Power: 0.8W
 Bass Resonance Frequency: 500±100Hz
 Sound Pressure Level: 82±2dB at 2000Hz@1Vrms/10cm
 THD: <15% 700Hz ; <8% 1000Hz
 <4% 3000Hz-10000Hz@
 1Vrms input
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



Unit: mm

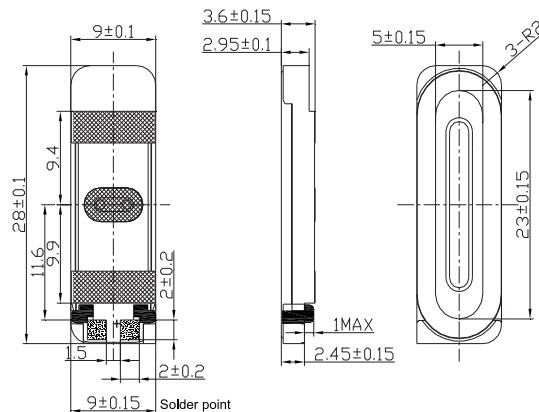
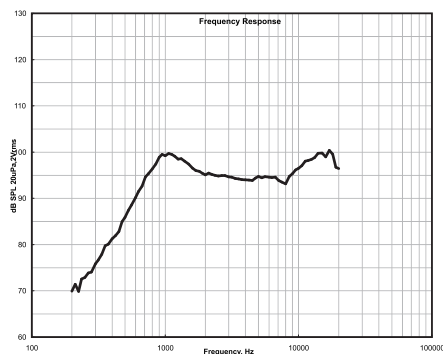


DMSP0928A-02-G

Weight : 2±0.3g



Size(mm): 9 x 28 x 3.6mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1W
 Bass Resonance Frequency: 800±150Hz
 Sound Pressure Level: 100.5±3dB at 2000Hz@2V/5cm
 THD: <15% 800Hz~1200Hz;
 <10% 1200Hz~5000Hz
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



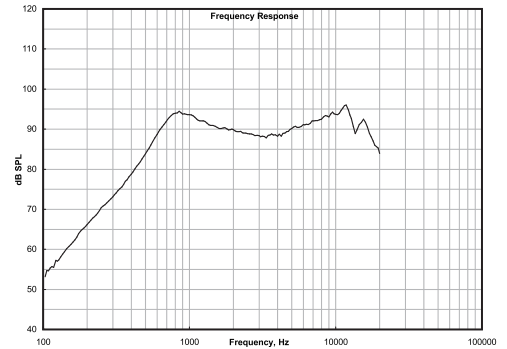
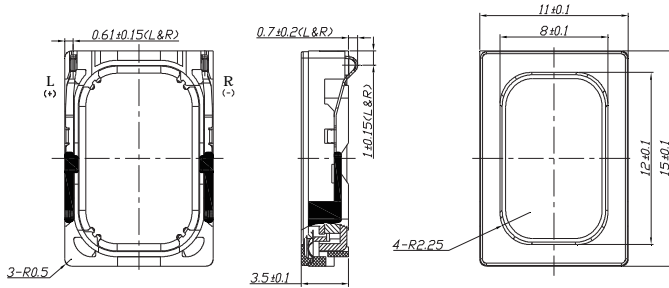
Unit: mm



DMSP1115KJ-05-G

Weight : 1.6±0.3g

Size(mm): 11 x 15 x 3.5mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1W
 Bass Resonance Frequency: 500Hz±10% in free air
 Sound Pressure Level: 84±3dB at 2000Hz in 1cc box@1V/10cm
 THD: 300Hz<25% ; 500Hz~750Hz<18%
 1500Hz<5% ; 2000Hz~15000Hz<3%
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



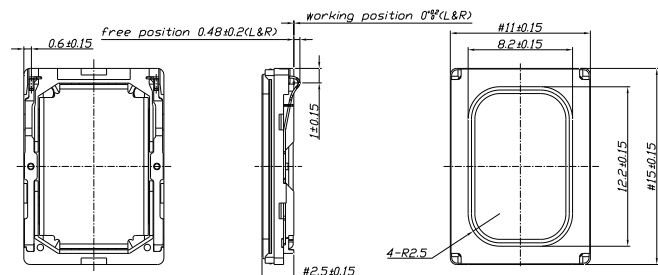
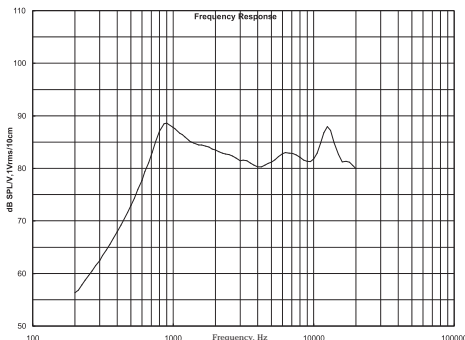
Unit: mm

DMSP1115MJ-01-G

Weight : 1.3mg



Size(mm): 11 x 15 x 2.5mm
 Rated Input Power: 0.4W
 Maximum Input Power: 0.8W
 Bass Resonance Frequency: 500±15%Hz
 Sound Pressure Level: 83±2dB at 2000Hz@1Vrms/10cm
 THD: <15% 500Hz-800Hz ; <5%1500Hz-15000Hz@1Vrms input
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



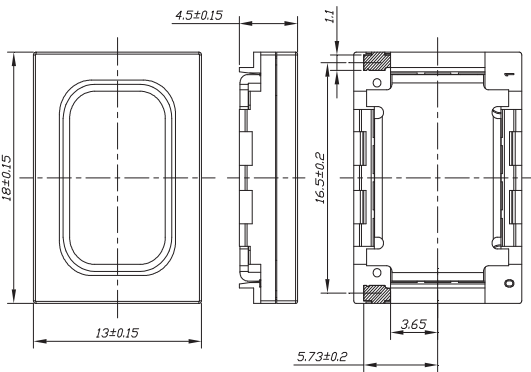
Unit: mm



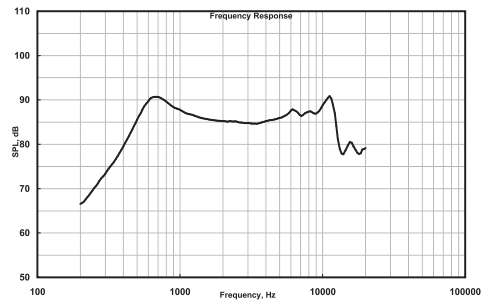
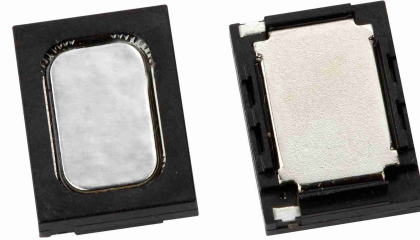
DMSP1318H-01-G

Weight : $2.8 \pm 0.3g$

Size(mm): 13 x 18 x 4.5mm
 Rated Input Power: 0.7W in 1cc box
 Maximum Input Power: 1.0W in 2cc box
 Bass Resonance Frequency: $250 \pm 50Hz$ in free air
 $650 \pm 70Hz$ in 1cc box
 Sound Pressure Level: $85 \pm 3dB$ at 2kHz in 1cc box@1Vrms/10cm
 THD: <15% 300Hz~700Hz;
 <5% 1400Hz~10000Hz in 1cc
 box@1Vrms input
 Operating Temperature Range: $-20^{\circ}C$ to $+70^{\circ}C$
 Storage Temperature Range: $-40^{\circ}C$ to $+85^{\circ}C$



Unit: mm

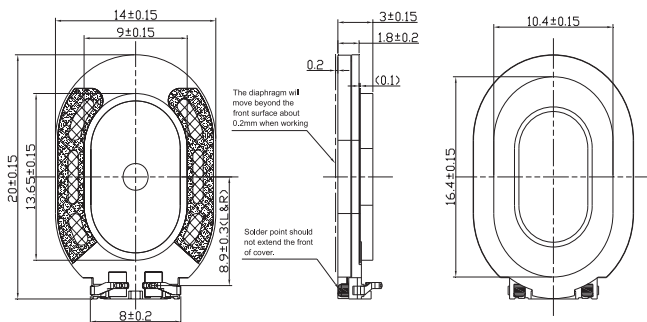
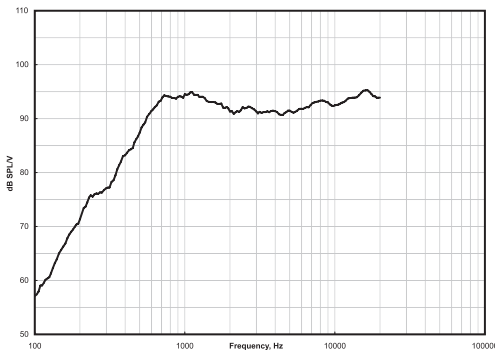


DMSP1420DJ-01-G

Weight : 1.3g



Size(mm): 14 x 20 x 3mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1.0W
 Bass Resonance Frequency: $800 \pm 20\%$
 Sound Pressure Level: $92.5 \pm 3dB$ at 2000Hz@2.0Vrms/10cm
 THD: <15% 800Hz~5000Hz@2.0Vrms input
 Operating Temperature Range: $-20^{\circ}C$ to $+70^{\circ}C$
 Storage Temperature Range: $-40^{\circ}C$ to $+85^{\circ}C$



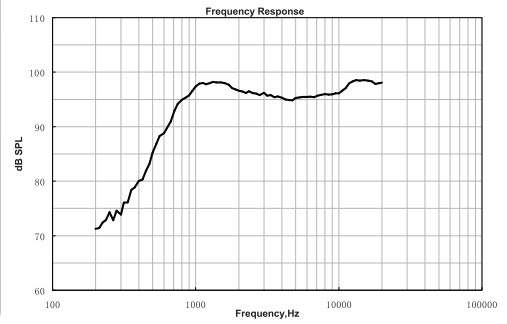
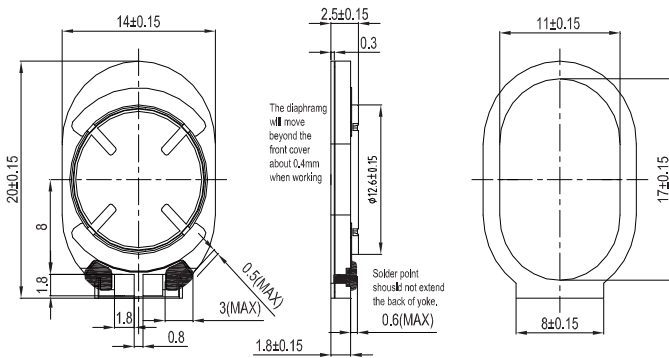
Unit: mm



DMSP1420H-06-G

Weight : 1.3g

Size(mm): 14 x 20 x 2.5mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1W
 Bass Resonance Frequency: 850±20%
 Sound Pressure Level: 94.5±3dB at 3000Hz@2Vrms/10cm
 THD: <15% 850Hz-4500Hz@2Vrms input
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -30°C to +85°C



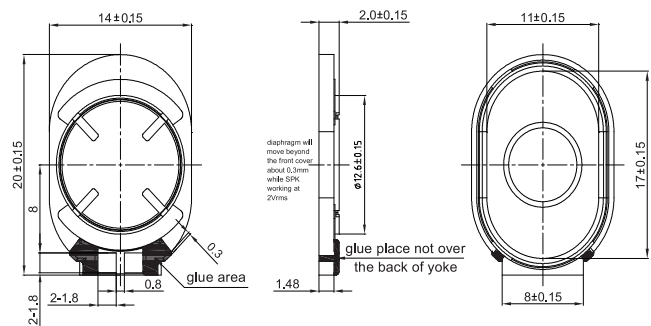
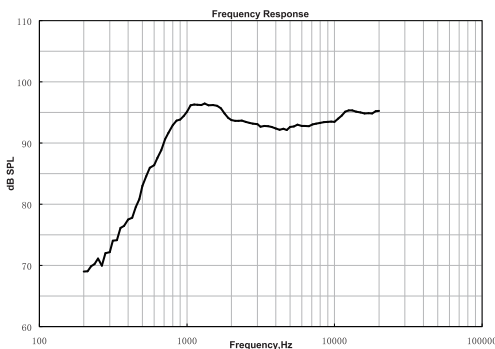
Unit: mm

DMSP1420I-05-G

Weight : 1.0g



Size(mm): 14 x 20 x 2mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1.0W
 Bass Resonance Frequency: 850±20% in free air
 Sound Pressure Level: 93±3dB at 3000Hz@2Vrms /10cm
 THD: <15% 800Hz-5000Hz@2Vrms/10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -30°C to +85°C



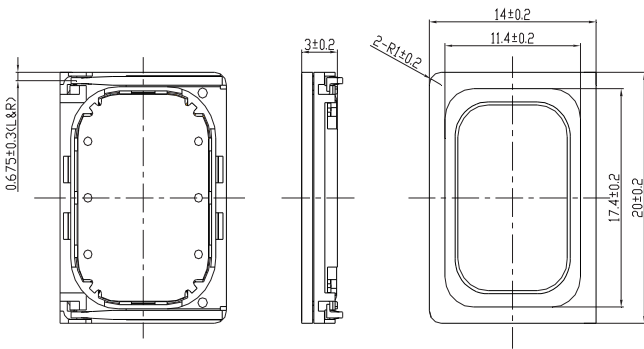
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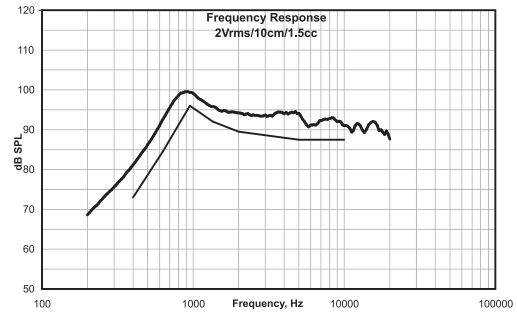
DMSP1420KJ-01-G

Weight : 2.4±0.3g

Size(mm): 14 x 20 x 3mm
 Rated Input Power: 0.7W
 Maximum Input Power : 1.0W
 Bass Resonance Frequency: 350Hz±15% in free air
 850Hz±15% in 1.5cc box
 Sound Pressure Level: 93.5±2.5dB
 (2000Hz~5000Hz average SPL)
 @ 2.37Vrms/10cm
 THD: <15% 400Hz; <10% 630Hz; <5% 1000Hz
 <3% 1200Hz; <2% 5000Hz-10000Hz
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



Unit: mm

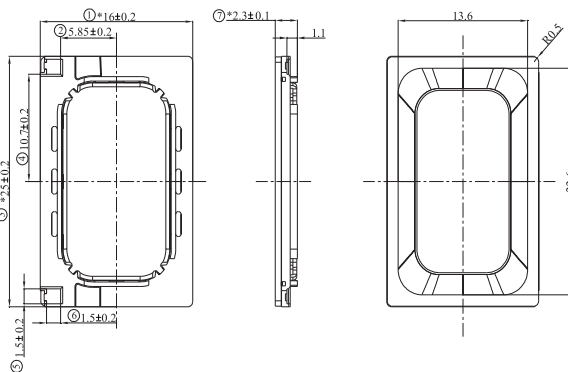
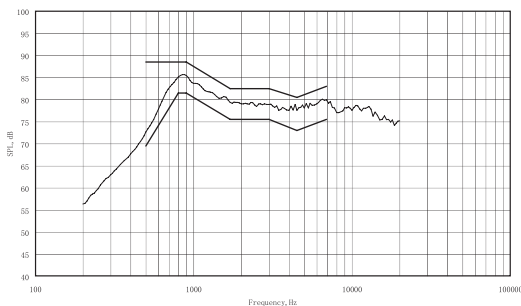
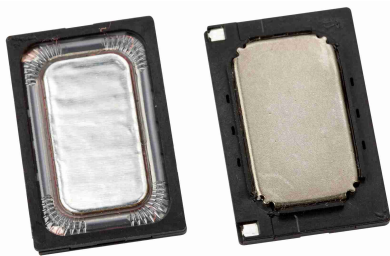


DMSP1625HJ-01-G

Weight : 2.2g



Size(mm): 16 x 25 x 2.3mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1W
 Bass Resonance Frequency: 750±150Hz in 2cc box
 Sound Pressure Level: 83±3dB@ 1000Hz in 2cc box
 @ 0.5w/30cm
 THD: <10% at 1000Hz in 2cc box@0.5w input
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



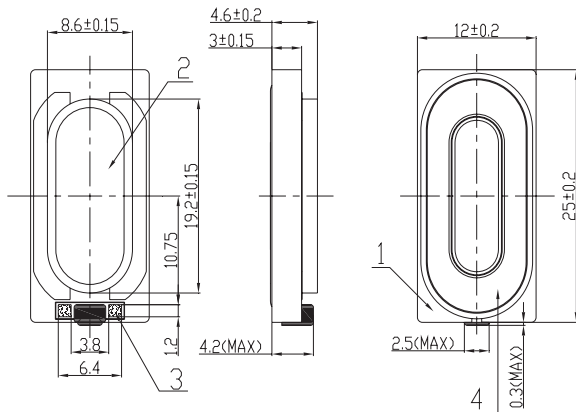
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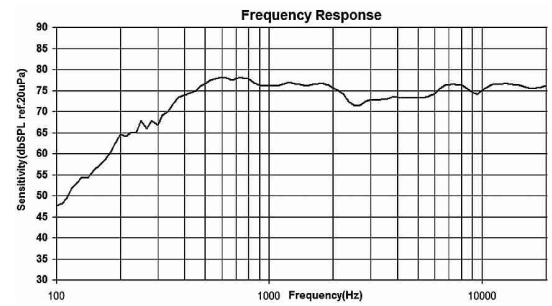
DSS1225B

Weight : 2.8g

Size(mm): 12 x 25 x 4.6mm
 Impedance: $4 \pm 15\%$ ohms@1000Hz, 1Vrms input
 Rated Input Power: 1.5W
 Maximum Input Power: 2W
 Resonance Frequency: 400 ± 140 Hz
 Sensitivity: 76 ± 3 dB (1W 0.5m average at 800, 1000, 1200, 1500Hz)
 THD: $< 15\%$ (1kHz)@1W
 Operating Temperature Range: -20°C to $+70^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



Unit: mm

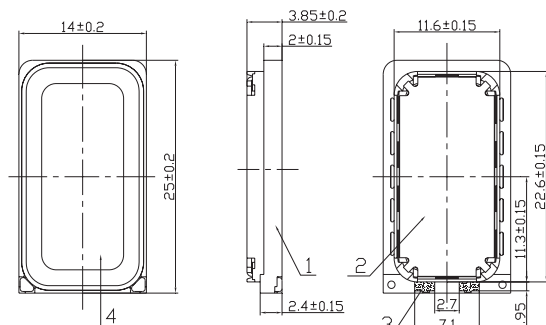
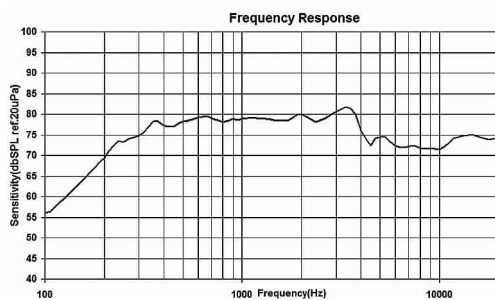


DSS1425K

Weight : 3.7g



Size(mm): 14 x 25 x 3.85mm
 Impedance: $4 \pm 15\%$ ohms@1000Hz, 1Vrms input
 Rated Input Power: 1W
 Maximum Input Power: 1.5W
 Resonance Frequency: 300 ± 100 Hz
 Sensitivity: 81 ± 3 dB (1W 0.5m average at 800, 1000, 1200, 1500Hz)
 THD: $< 15\%$ (1000Hz)@1W
 Operating Temperature Range: -20°C to $+70^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



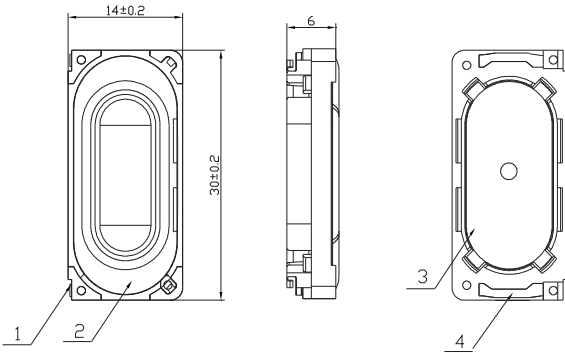
Unit: mm



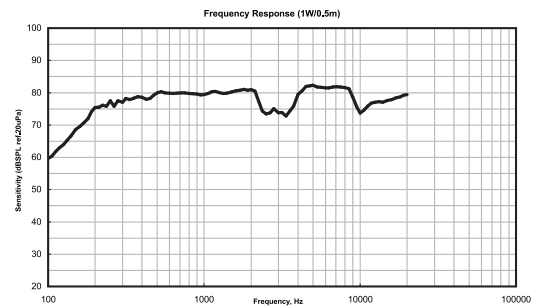
DSS1430C

Weight : 5.9g

Size(mm): 14 x 30 x 6mm
 Impedance: $8 \pm 15\%$ ohms@1000Hz, 1Vrms input
 Rated Input Power: 2W
 Maximum Input Power: 3W
 Resonance Frequency: 300 ± 60 Hz
 Sensitivity: 78 ± 3 dB (1W 0.5m average at 800, 1000, 1200, 1500Hz)
 THD: $< 5\%$ (1000-3000Hz)@1W
 Operating Temperature Range: -20°C to $+70^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



Unit: mm

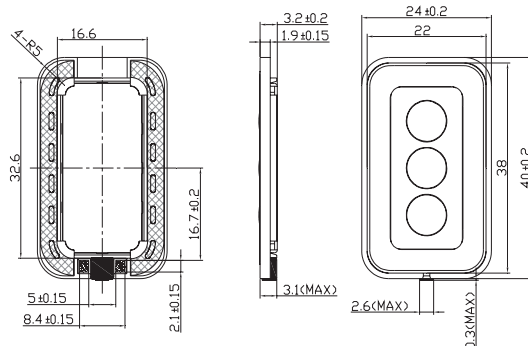
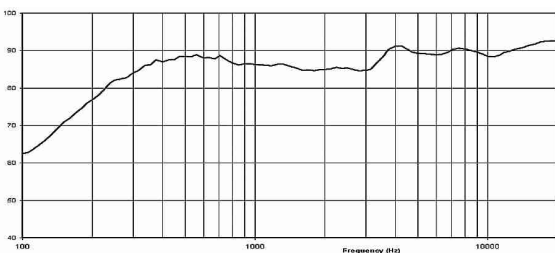


DSS2440A

Weight : 7.6 ± 0.5 g



Size(mm): 24 x 40 x 3.2mm
 Impedance: $8 \pm 15\%$ ohms@1000Hz, 1Vrms input
 Rated Input Power: 1.5W
 Maximum Input Power: 2W
 Bass Resonance Frequency: 320 ± 70 Hz
 Sound Pressure Level: 81 ± 3 dB@0.5W / 50cm average at 800, 1000, 1200, 1500Hz)
 THD: $< 5\%$ 1000Hz, 1W
 Operating Temperature Range: 20°C to $+70^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



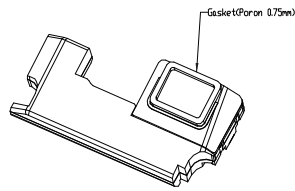
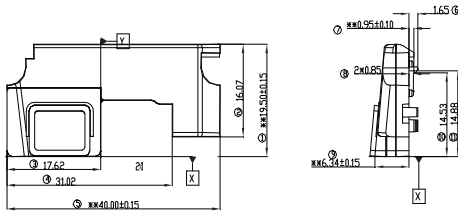
Unit: mm



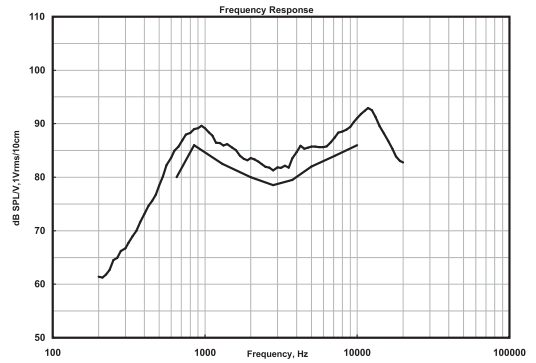
DMSP1115ASS-K-01

Weight : 3.5g

Size(mm): 40 x 19.5 x 6.34mm
 Rated Input Power: 0.5W
 Maximum Input Power: 1W
 Bass Resonance Frequency: 800Hz
 Sound Pressure Level: 84dB at 2000Hz / 1Vrms / 10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



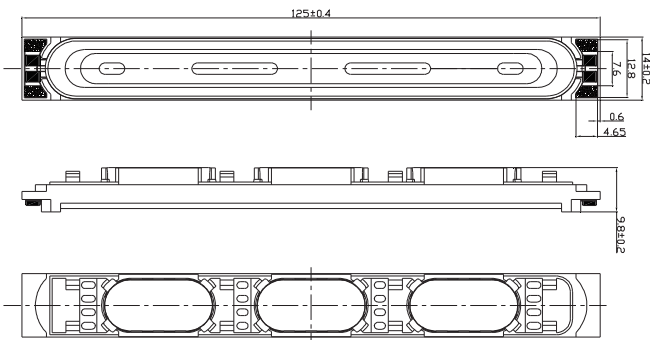
Unit: mm



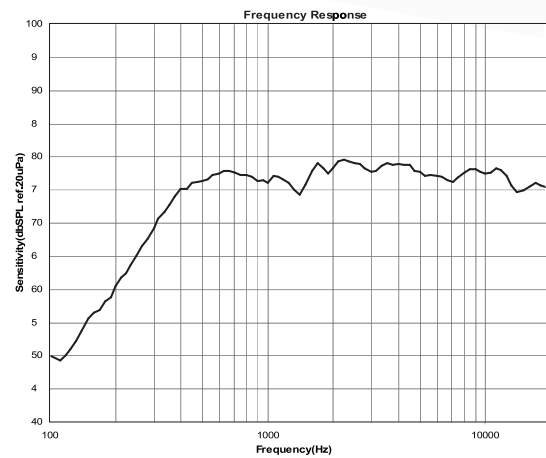
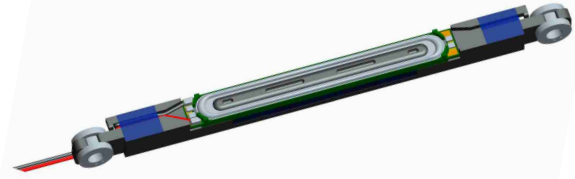


DSS14125A-01X-G

Impedance: $8 \pm 15\%$ ohms@1kHz, 1Vrms input
 Rated Noise Power: 10W
 Short Term Maximum Power: 20W
 Sound Pressure Level: 78 ± 3 dB ref.20uPa@2.83Vrms, 1m
 Average at 1000, 2000, 3000, 4000Hz
 Frequency of -6dB (referenced to SPL): 350 ± 50 Hz
 Rated Frequency Range: 100Hz~20000Hz
 Frequency Response: $<10\%$ @2.83Vrms, 300~20kHz
 THD:



Unit: mm

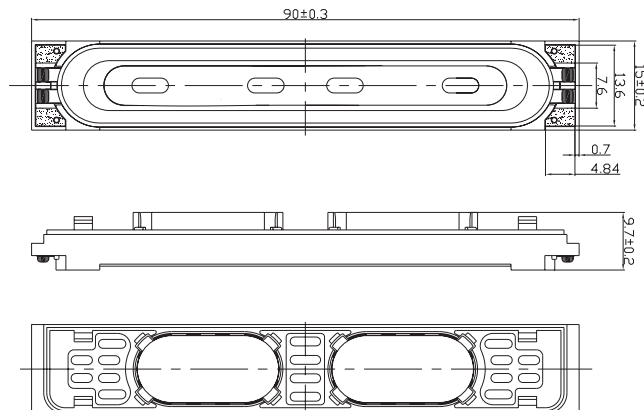
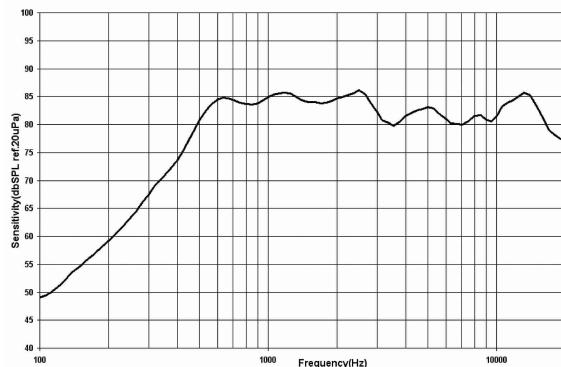


DSS1590A-02X-G



Rated Impedance: $8 \pm 15\%$ ohms@1kHz, 1Vrms input
 Rated Noise Power: 10W
 Short Term Maximum Power: 20W
 Sound Pressure Level: 80 ± 3 dB ref.20uPa@2.83Vrms, 1m
 Average at 600, 800, 1000, 2000Hz

Frequency of -6dB (referenced to SPL): 450 ± 90 Hz
 Rated Frequency Range: 100Hz~20000Hz
 Frequency Response: $<10\%$ @2.83Vrms, 1kHz
 THD:



Unit: mm

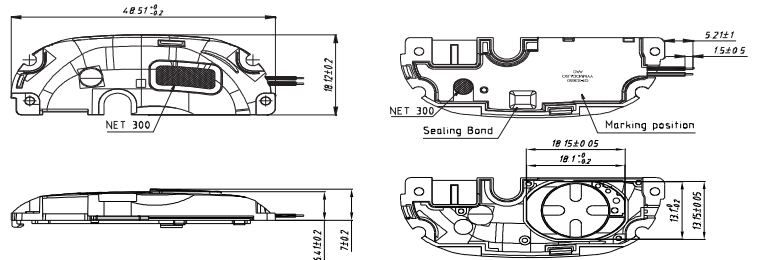
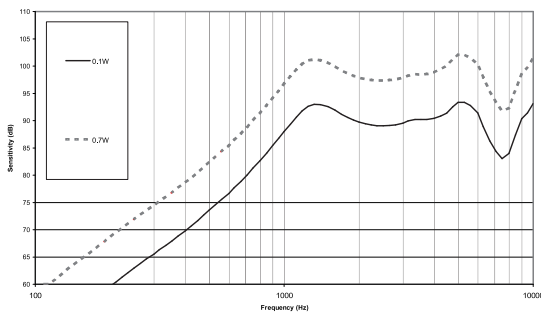


DMST1318ASM-01-G

Weight : 2.6g



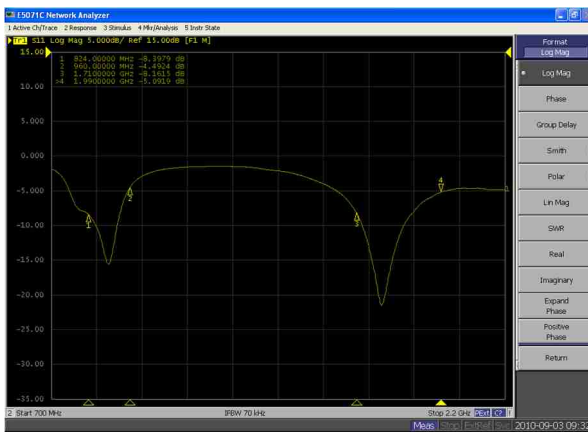
Size(mm): 48.51 x 18.12 x 7mm
Impedance: 8±15% ohms@2000Hz, 1Vrms input
Rated Input Power: 0.7W
Maximum Input Power: 1.1W
Bass Resonance Frequency: 1250Hz±15%
Sound Pressure Level: 88.5±2dB ATO.1W/10cm 800, 1000, 1200, 1500Hz AVG
THD: 100Hz-60%, 500Hz-20%, 1000Hz-5%
Operating Temperature Range: -20°C to +70°C
Storage Temperature Range: -40°C to +85°C



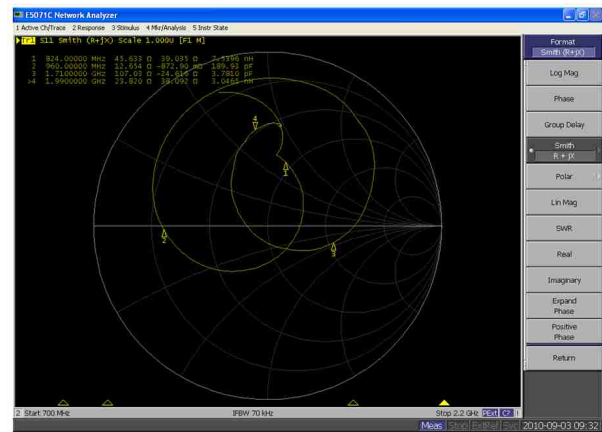
Unit: mm

Antenna Working Band

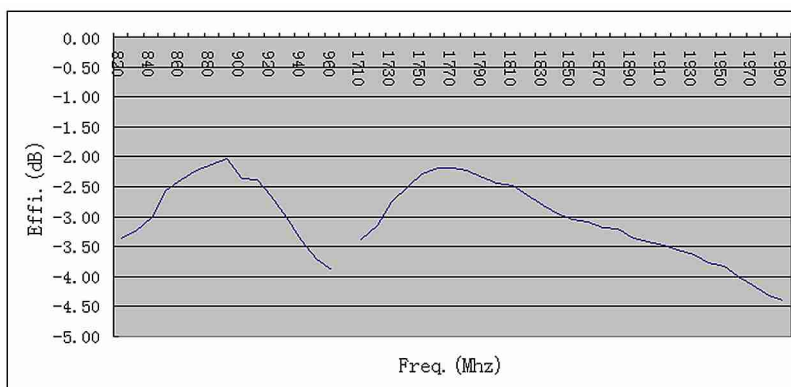
GSM850/EGSM900/DCS1800/PCS1900



Input Return Loss



Smith Chart



Efficiency

Multi-Function Device

P. 23-24

Multi-function device is an electronic component which combines the function of a receiver and /or vibrator functionality in one device.

Applications: Mobile Phones

Multi-Function Device Naming

Model numbers of AAC Acoustic Technologies Holdings Inc. - multi-function speaker / receiver consist of the following fields :

**M + Characteristic + Product Category + External Diameter + Version Number +
Contact Method + Performance Serial + Gasket Position + Green Product**

Product Category

- Multi-function Device series : MSR / MPSR / MTSR

The other fields have similar meanings as those for Dynamic Miniature Speakers and Dynamic Receivers.

Green Product

- G - Abbreviation of green product

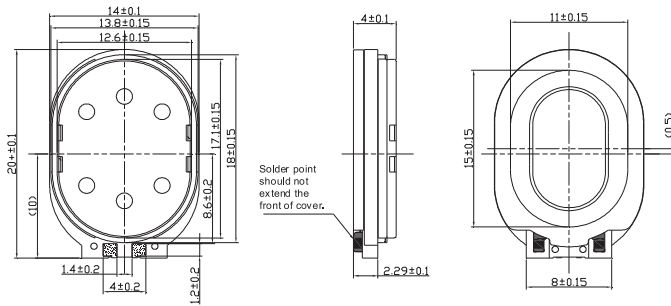
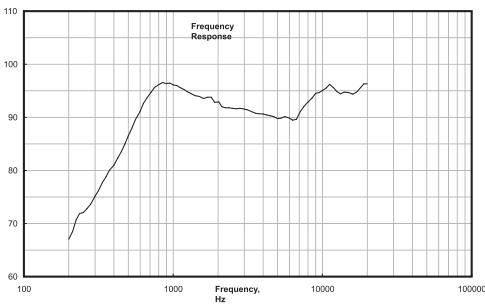


MSRV1420A-01-G

Weight : 2.5±0.2g



Impedance: 8±15% ohms@2000Hz, 1Vrms input
 Rated Input Power: 0.5W
 Maximum Input Power: 1.0W
 Bass Resonance Frequency: 800±20%Hz
 Sound Pressure Level: 93±3dB at 2Vrms/10cm at 2000Hz
 THD: 500Hz <30%, 1000Hz-5000Hz <10%
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C
 Vibration Resonance Frequency: 155±5Hz
 Vibration Level for 80g Block: ≥5.5m/s² at Fv@0.35Vrms



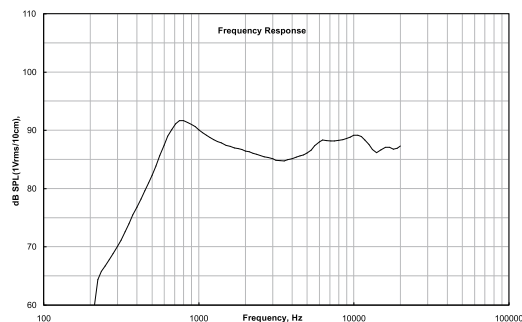
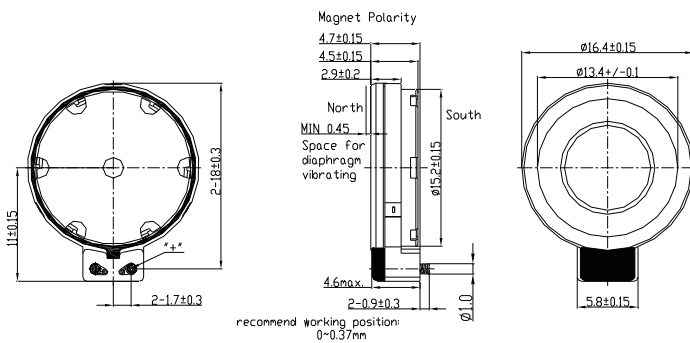
Unit: mm



MSRV1608D-S-03-G

Weight : 2.6±0.2g

Impedance: 8±15% ohms@2000Hz, 1Vrms input
 Rated Input Power: 0.5W (in 2cc box)
 Maximum Input Power: 1W (in 2cc box)
 Bass Resonance Frequency: 750±100Hz@1Vrms input in 2cc box
 Sound Pressure Level: 86±3dB at 1Vrms/10cm at 2000Hz
 THD: 500Hz <20%, 1000Hz <15%
 1Vrms / 10cm in 2cc box
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C
 Vibration Resonance Frequency: 157±5Hz
 Vibration Level for 80g Block: ≥6m/s² at Fv@0.35Vrms



Unit: mm

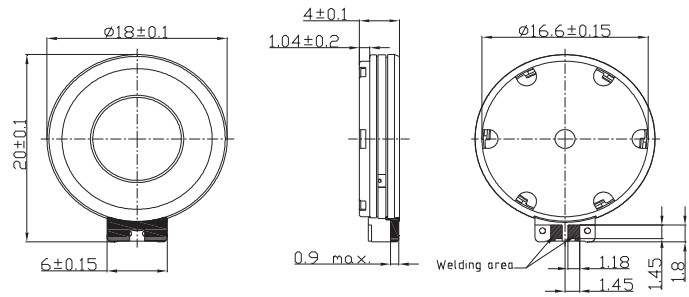
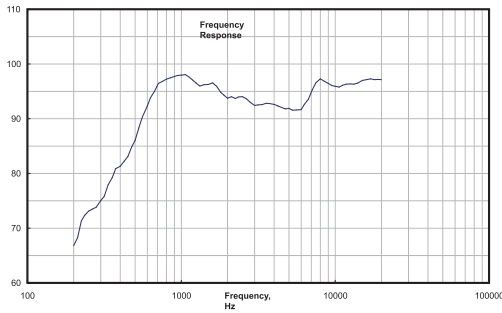


MSRV1808D-01-G

Weight : 2.6±0.2g



Impedance: 8±15% ohms@2000Hz, 1Vrms input
Rated Input Power: 0.5W
Maximum Input Power: 1.0W
Bass Resonance Frequency: 800±20%Hz
Sound Pressure Level: 94±3dB at 2Vrms/10cm at 2000Hz
THD: 800-1000Hz <15%, 1000Hz-5000Hz <10% at 2Vrms
Operating Temperature Range: -20°C to +70°C
Storage Temperature Range: -40°C to +85°C
Vibration Resonance Frequency: 155±5Hz
Vibration Level for 80g Block: ≥5.5m/s² at Fv@0.3Vrms



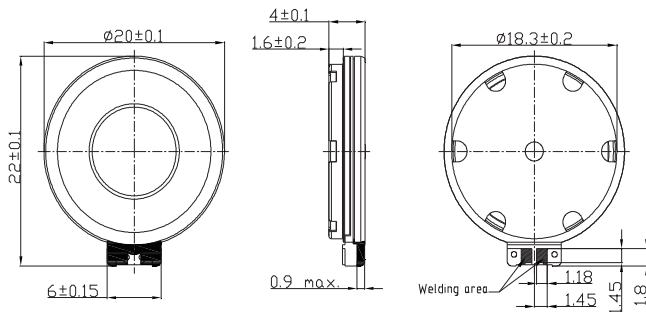
Unit: mm



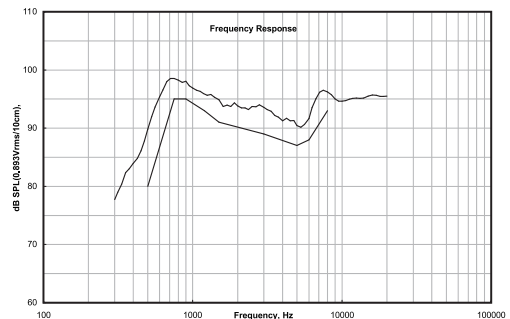
MSRV2008H-01-G

Weight : 2.8±0.2g

Impedance: 8±15% ohms@2000Hz, 1Vrms input
Rated Input Power: 0.5W
Maximum Input Power: 1.0W
Bass Resonance Frequency: 800±20%Hz
Sound Pressure Level: 94±3dB at 2Vrms/10cm at 2000Hz
THD: 800-1000Hz<15%, 1000Hz-5000Hz<10% at 2Vrms
Operating Temperature Range: -20°C to +70°C
Storage Temperature Range: -40°C to +85°C
Vibration Resonance Frequency: 155±5Hz
Vibration Level for 80g Block: ≥5.5m/s² at Fv@0.3Vrms



Unit: mm



Miniature Receiver

P. 27-30

Miniature receiver is an electronic component which is designed to fit in mobile devices. It receives electrical signals from an amplifier or signal processor, and converts them into sound signals detectable by the human ear. Receivers are available in round, oval and rectangle shapes.

Compare with traditional fixed-line corded phone receiver, the mobile phone receiver has the same structure but much smaller size. The main parameters describes receiver's performance includes impedance at 1kHz, rated input power, maximum input power, bass resonance frequency, sensitivity at 1 kHz and THD (Total Harmonic Distortion).

Applications: Mobile phones

Miniature Receiver Naming

Model numbers of AAC Acoustic Technologies Holdings Inc.- speakers and receivers consist of the following fields:

Product Category + Characteristic + External Diameter + Version Number + Impedance + Contact Method + Performance Serial + Gasket Position + Green Product

Product Category	Characteristics	
<ul style="list-style-type: none"> ■ Polyphonic Speaker series : DMS ■ Miniature Receiver series : SDR 	Circular	-
	Elliptical	T
	Race Track-Shaped	P
	Small	W
	High Frequency	G
	Middle Frequency	Z
	Low Frequency	D
	Wide Bandwidth	-
	Stereo	L
	For Automobiles	I
	Green Product	G

External Diameter

- In ohm

Version Number

- Version Number assigned along product development process

Impedance

- In ohm

Contact Method

- PCB - (Omitted) ■ Pin Contact - P ■ Spring Contact - J ■ Wired - W ■ Coil Spring Contact - S
- FPC - F ■ Wire with connector - C

Performance Serial

- Digit showing number of times an internal component has been changed that cause changes in performance

Gasket Position

- F - Gasket in the front
- B - Gasket at the back

Green Product

- G - Abbreviation of Green Product

Example : SDR 15 32 H - P - 01 - F - G



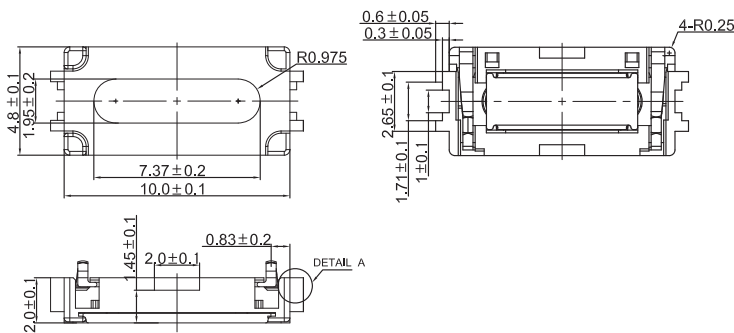
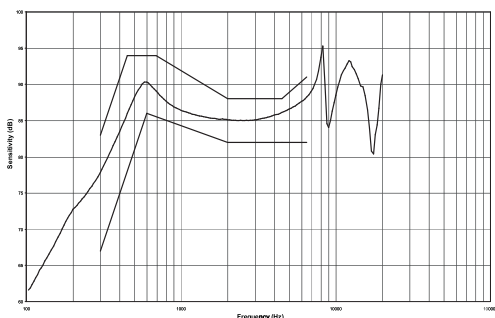


SDRP0510HJ03

Weight : 0.3g(nominal)



Size: 4.8 x 10 x 2.0mm
 Impedance: 32±20%ohms@1000Hz, 179m Vrms input
 Rated Input Power: 10mW
 Maximum Input Power: 20mW
 Resonance Frequency: 520Hz ± 15%@179m Vrms in free air
 Sensitivity: 85±3dB Pa/V (566m Vrms 2000Hz 1cm Baffleplate)
 THD: <55%(300Hz)@566m Vrms
 <20%(500Hz), <5%(1000Hz), <5%(4000Hz)
 Operating Temperature: -20°C to +70°C
 Storage Temperature: -40°C to +85°C



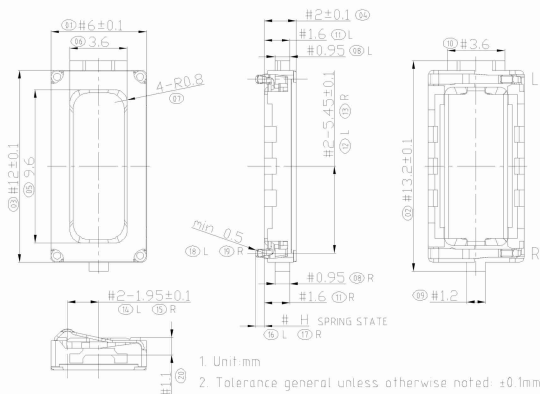
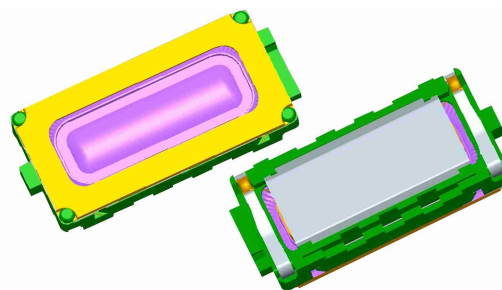
Unit: mm



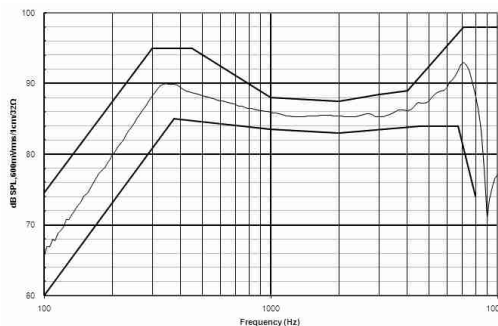
SDRP0612HJ03

Weight : 0.5±0.2g

Size: 6 x 12 x 2mm
 Impedance: 32±20%ohms@1000Hz, 566Vrms input
 Rated Input Power: 10mW
 Maximum Input Power: 20mW
 Resonance Frequency: 350±50Hz input 566mV
 Sensitivity: 85±2dB@2kHz input 566mV 1cm Baffleplate
 THD: <38%@300Hz
 <8%@545Hz
 <3%@800Hz
 <3%@5450Hz
 <8%@7100Hz
 <8%@10000Hz
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



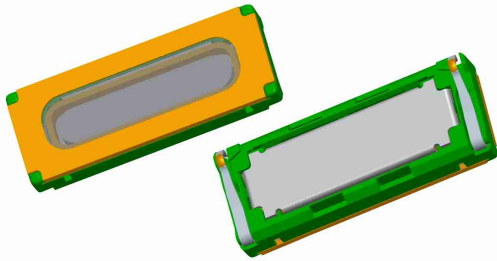
Unit: mm



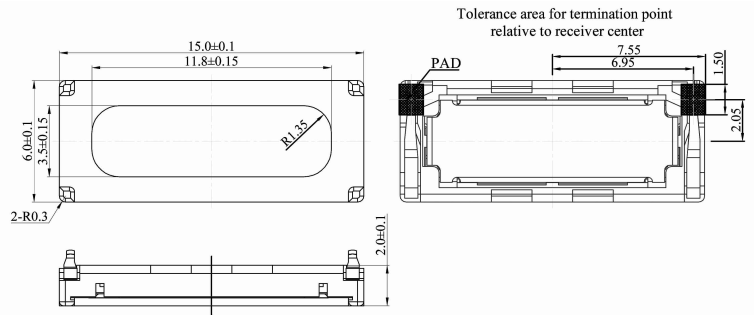
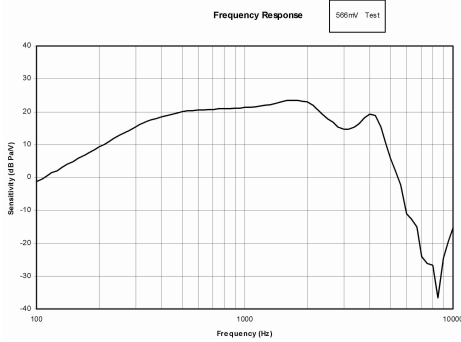


SDRP0615PJ01-G

Weight : 0.5±0.1g



Size: 6 x 15 x 2.0mm
 Impedance: 32±10%@1KHz
 Rated Input Power: 10mW
 Maximum Input Power : 30mW
 Resonance Frequency: 350±100Hz in free air
 Sensitivity: 21±3dB Pa/V 566mVrms with type 3.2HL
 THD: <15%(300-1KHz)
 <5%(1KHz-4KHz)
 <5% at 1KHz 566m Vrms with type 3.2HL
 Operating Temperature: -20°C to +70°C
 Storage Temperature: -40°C to +85°C



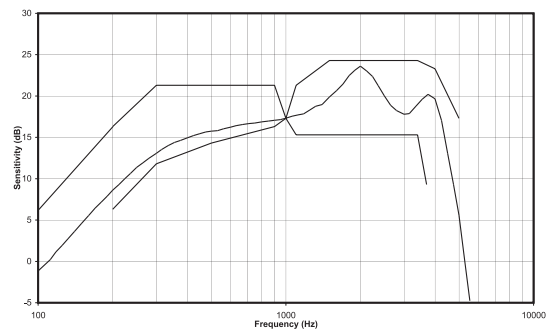
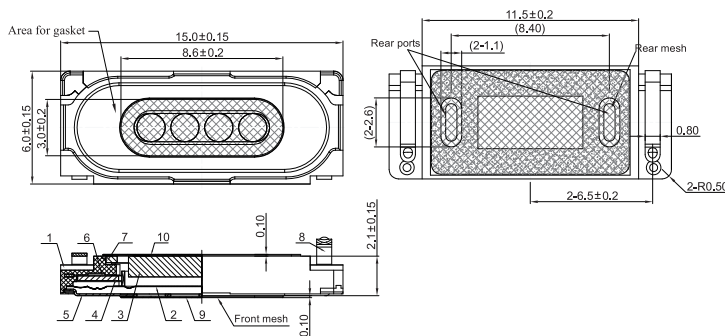
Unit: mm



SDRP0615NJ04-G

Weight : 0.55g

Size: 6 x 15 x 2.2mm
 Impedance: 32ohms
 Rated Input Power: 10mW
 Maximum Input Power : 50mW
 Resonance Frequency: 300Hz
 Sensitivity: 18dB Pa/V
 THD: <15%(300-1000Hz), <3%(1000Hz)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +80°C

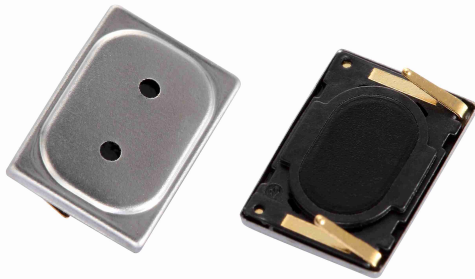


Unit: mm

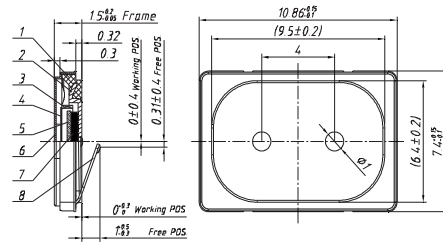
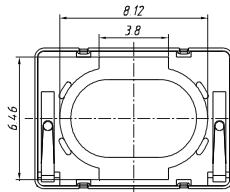
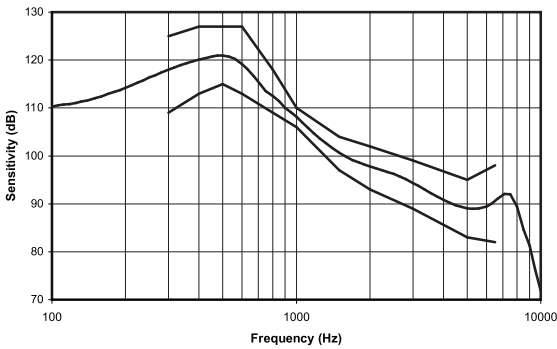


SDRP0711NJ01

Weight : 0.31g(nominal)



Size: 7.4 x 10.86 x 1.5mm
 Impedance: 32±15% ohms@1000Hz, 179mVrms input
 Rated Input Power: 10mW
 Maximum Input Power : 30mW
 Resonance Frequency: 400 ± 80Hz
 Sensitivity: 17±3dB Pa/V (179mV 1000Hz IEC711)
 THD: <15% (300Hz)@179mVrms
 <12%(400Hz), <8%(600Hz), <5%(1000Hz)
 <3%(4000Hz)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



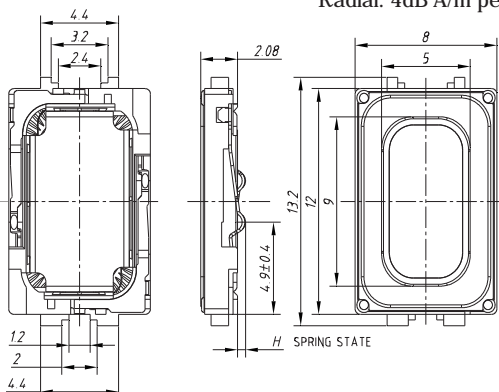
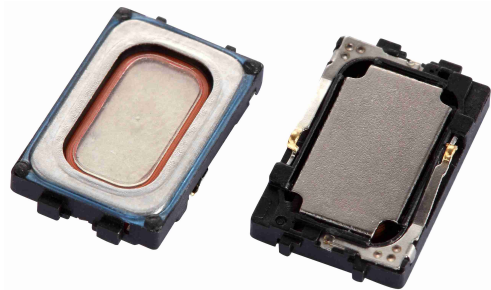
Unit: mm



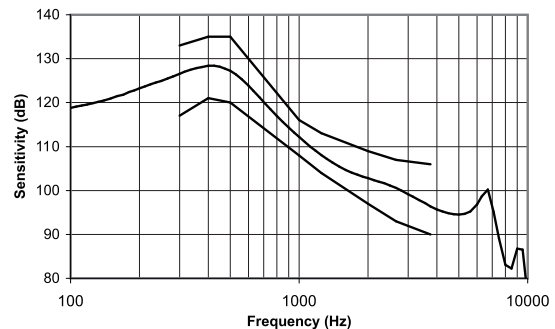
SDRP0812CJ06

Weight : 0.45g(nominal)

Size: 8 x 12 x 2.08mm
 Impedance: 28.8±10% ohms@1000Hz,
 Rated Input Power: 5mW
 Maximum Input Power : 20mW
 Resonance Frequency: 350 ± 70Hz
 Sensitivity: 20.5±3dB Pa/V (179mV 1kHz)
 THD: <15% (300Hz)@179mVrms
 <8%(500Hz), <3%(1000Hz), <3%(4000Hz)
 >10.5dB A/m per 1V@15mm
 Axial Sensitivity: >3.5dB A/m per 1V@15mm
 Radial Sensitivity:
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C
 HAC Function:
 Testing Condition: 15mm
 Specification: Axial: 12dB A/m perV
 Radial: 4dB A/m perV



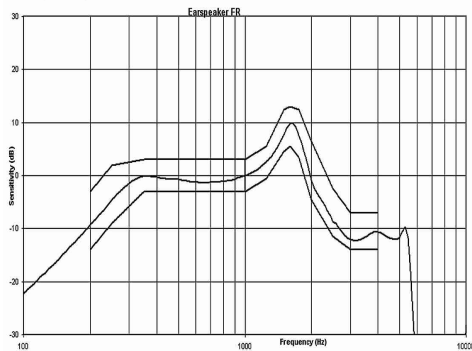
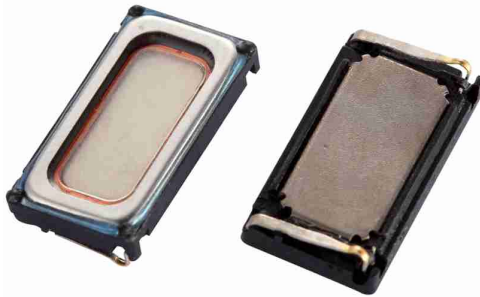
Unit: mm



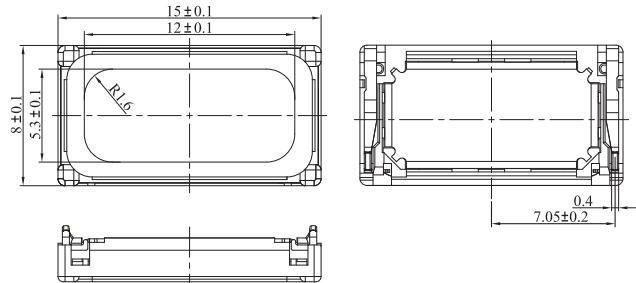


SDRP0815FJ02

Weight : 0.60g(nominal)



Size: 8 x 15 x 2.5mm
 Impedance: 32±20% ohms@1000Hz, 179mVrms input
 Rated Input Power: 10mW
 Maximum Input Power : 50mW
 Resonance Frequency: 300 ± 45Hz
 Sensitivity: 25.5±2.5dB Pa/V (566mV 1000Hz IEC711 highleakage)
 THD: <45% (300~500Hz)@566mVrms <14%(500~1000Hz), <4%(1k~4000Hz)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C
 HAC Function:
 Testing Condition: 15mm
 Specification: Axial: 15dB A/m perV Radial: 7dB A/m perV



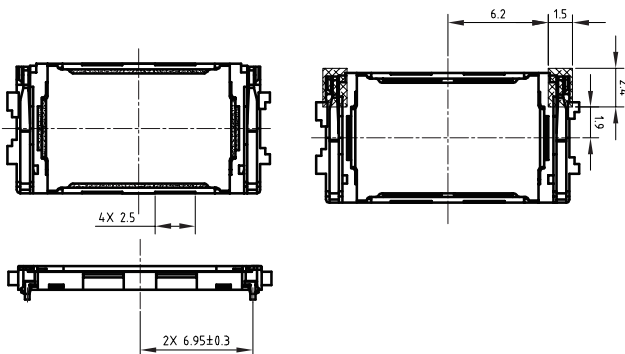
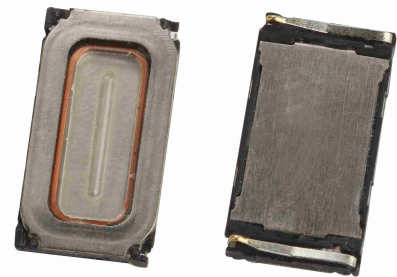
Unit: mm



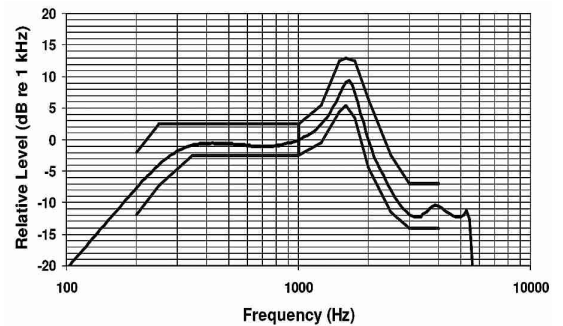
SDRP0815HJ01

Weight : 0.5g

Size: 8 x 15 x 1.5mm
 Impedance: 32ohms
 Rated Input Power: 20mW
 Maximum Input Power : 50mW
 Resonance Frequency: 250Hz
 Sensitivity: 25.5dB Pa/V
 THD: <4% (1000Hz)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C
 HAC Function:
 Testing Condition: 15mm
 Specification: Axial: 13dB A/m perV Radial: 5dB A/m perV



Unit: mm



Microphone

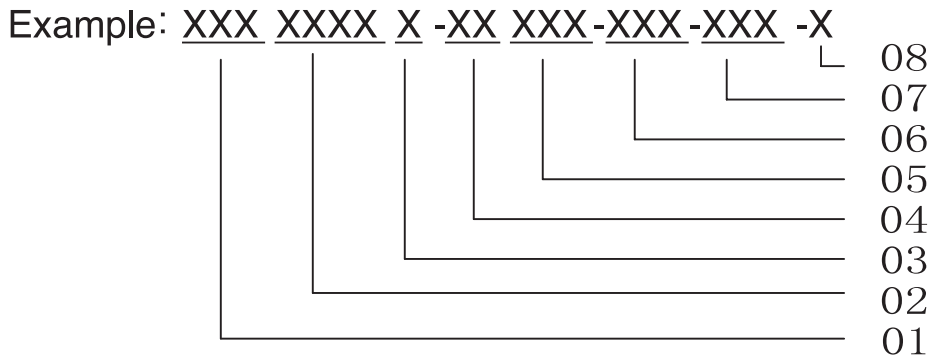
P. 33-37

Microphone is devices that receive sound signals and convert them into electrical activities for processing by an amplifier or signal processor. Electret condenser microphone (ECM) is used primarily for its audio pickup strengths and has a similar structure consisting of a diaphragm and a back electret apposite condenser. We have both uni and omni directional microphones, you can also opt analog or digital output types. (For application such as noise and echo cancellation)

The technical parameters describe ECM's performance including sensitivity, output impedance, maximum operation voltage, standard operation voltage, current consumption and s/N ratio.

Applications; Mobile phones, laptops, MP3/MP4s, digital cameras, Automotive.

Microphone Naming



- 01 ACM AAC Back Electret Condenser Microphone
- 02 ACMG AAC Back Electret Condenser Microphone of Green Product
- 03 Microphone Dimensions :
 - First two digits - external diameter
 - Last two digits - Height
- 04 Directivity :
 - O - Omni-directional
 - U - Uni-directional
 - N - Noise Canceling
 - A - Embedded Amplifier for High Sensitivity
- 05 Embedded Capacitor :
 - 01 - Embedded 10pF capacitor for the 1.8GHz band (DECT, S)
 - 02 - Embedded 10pF and 33pF capacitor for the 1.8GHz & 900MHz bands (Dual Band)
 - 03 - Embedded 33pF capacitor for the 900MHz band (GSM, PDC, DECT, PCS)
 - 04 - Embedded 10pF and 33pF capacitor and other capacitor or electronic part that client's request
 - 05 - Embedded capacitor or electronic part of client's request
- 06 Contact Method :
 - P28 - Pinned's Pin length 2.8mm
 - W20 - Wired's wire length 20mm
 - W - Soldered
 - L50 - FPCB's FPCB length 5.0mm
 - B - Solderless type
 - C10 - Wired with Connector's wire length 10mm
 - S - Surface mount devices
- 07 Sensitivity :
 - 443 ----- -44±3dB
 - 423 ----- -42±3dB
- 08 Rubber
 - TXX --- T With insulating rubber holder, serial number XX
 - HXX --- H With conducting rubber holder, serial number XX
- 09 Issue:
 - A --- edition (Not writing normally)
 - B --- edition



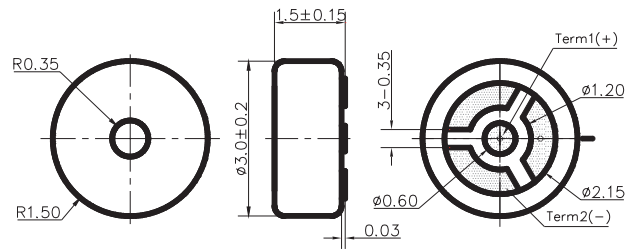
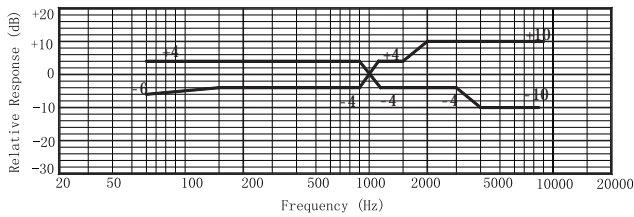
ACMG3015-05S

Weight : Less than 0.5g



Sensitivity:	-42±3dB
Operating Voltage:	1.5V-5V
Output Impedance:	<2200Ω
Directivity:	Omni directional
Current:	Vs=2.0V, RL=2200Ω
S/N Ratio:	>58dB
Operating Temperature Range:	-30°C to +70°C
Storage Temperature Range:	-40°C to +85°C

Unit: mm



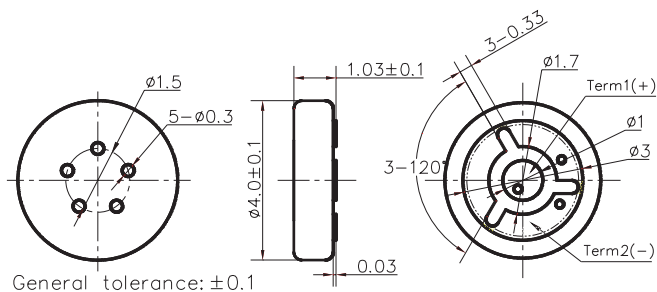
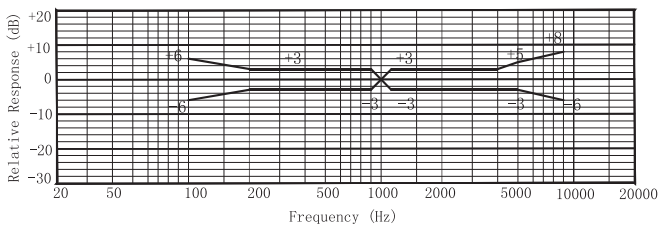
ACMG4010-05S

Weight : Less than 0.5g

Sensitivity:	-44±3dB
Operating Voltage:	1V-10V
Output Impedance:	<2200Ω
Directivity:	Omni directional
Current:	Vs=2.0V, RL=2200Ω
S/N Ratio:	>58dB
Operating Temperature Range:	-30°C to +70°C
Storage Temperature Range:	-40°C to +85°C



Unit: mm



General tolerance: ±0.1



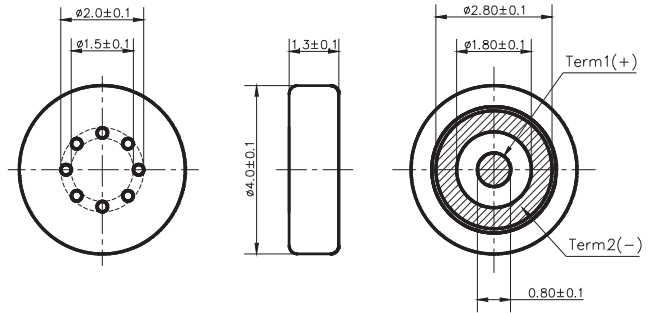
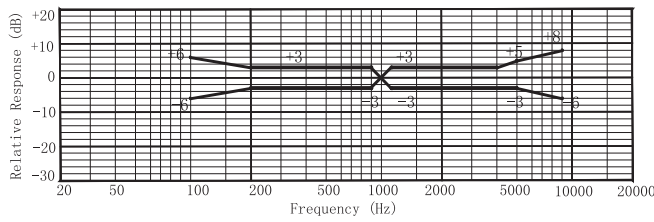
ACMG4013-05S

Weight : Less than 0.5g



Sensitivity: $-44 \pm 3\text{dB}$
 Operating Voltage: 1V-10V
 Output Impedance: $< 2200\Omega$
 Directivity: Omni directional
 Current: $V_s = 2.0\text{V}, R_L = 2200\Omega$
 S/N Ratio: $> 58\text{dB}$
 Operating Temperature Range: -30°C to $+70^\circ\text{C}$
 Storage Temperature Range: -40°C to $+85^\circ\text{C}$

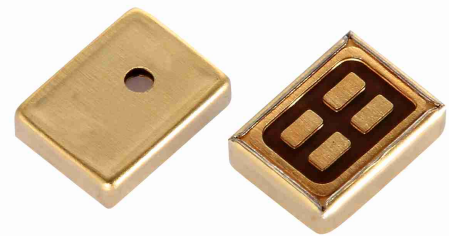
Unit: mm



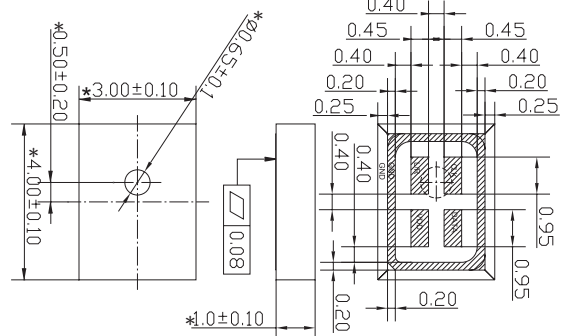
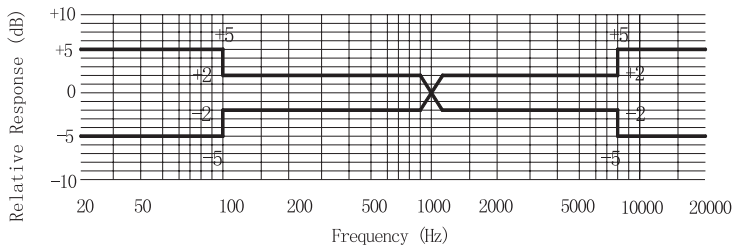
ADMG4310-263

Weight : Less than 0.5g

Sensitivity: $-26 \pm 3\text{dB}$
 Operating Voltage: 1.64V-2.86V
 Directivity: Omni directional
 Current: Max. $600\mu\text{A}$
 S/N Ratio: $> 60.5\text{dB}$
 Operating Temperature Range: -30°C to $+70^\circ\text{C}$
 Storage Temperature Range: -40°C to $+85^\circ\text{C}$

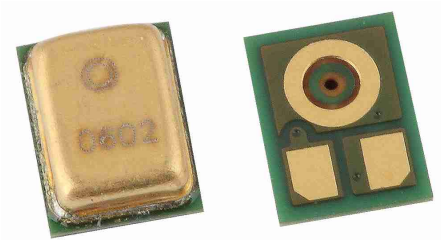


Unit: mm



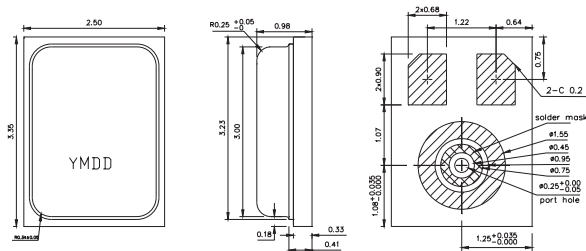
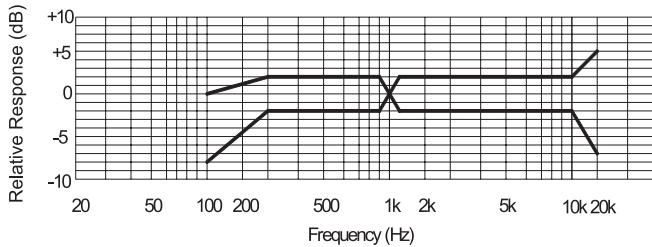


SM0102B-383-M02



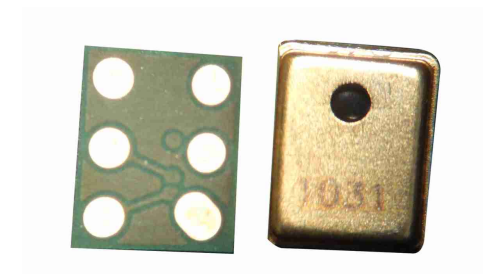
Directivity: Omni directional
 Sensitivity: $-38\pm 3\text{dB}$
 Output Impedance: $<300\Omega$
 Supply Voltage: $1.5\text{V}-3.6\text{V}$
 Current: $150\mu\text{A}$
 S/N Ratio: 60dB
 Operating Temperature Range: -40°C to $+85^\circ\text{C}$
 Storage Temperature Range: -40°C to $+85^\circ\text{C}$ at Soldered onto PC Board
 -10°C to $+50^\circ\text{C}$ in Tape/Reel's

Unit: mm

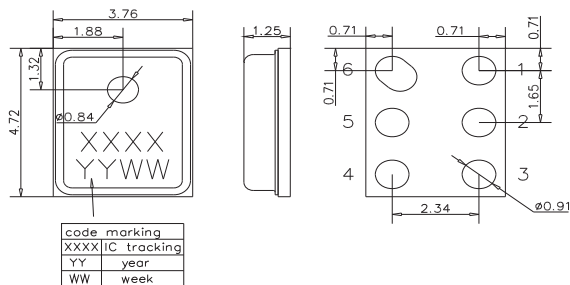
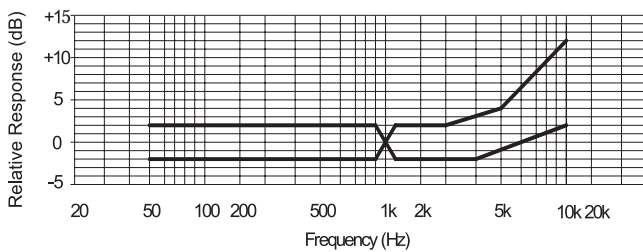


SDM0301-263-M01

Directivity: Omni directional
 Sensitivity: $-26\pm 3\text{dB}$
 Supply Voltage: $1.6\text{V}-3.6\text{V}$
 Current: $850\mu\text{A}$
 S/N Ratio: 56dB
 Operating Temperature Range: -40°C to $+85^\circ\text{C}$
 Storage Temperature Range: -40°C to $+85^\circ\text{C}$ at Soldered onto PC Board
 -10°C to $+50^\circ\text{C}$ in Tape/Reel's

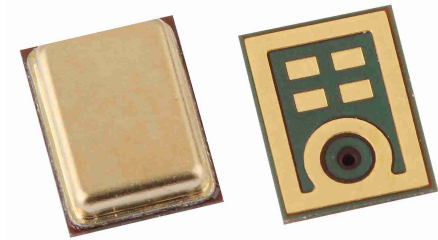


Unit: mm

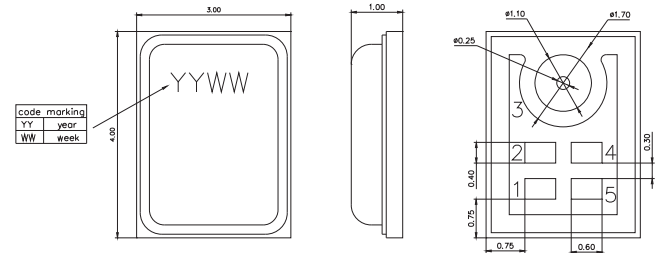
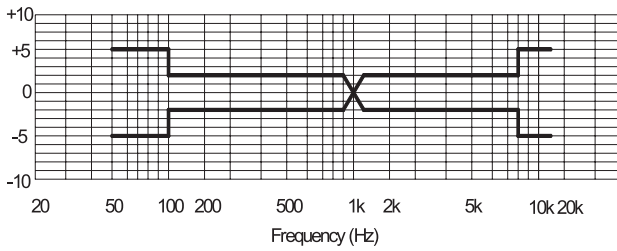




SDM0401B-263-M02

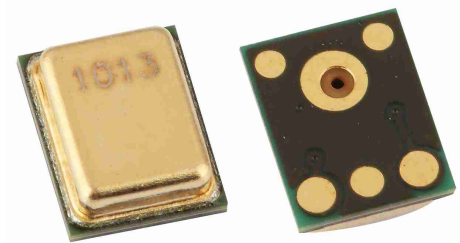


Directivity:	Omni directional
Sensitivity:	-26±3dB
Supply Voltage:	1.64V-2.86V
Current:	1-10mA
S/N Ratio:	60.5dB
Operating Temperature Range:	-40°C to +85°C
Storage Temperature Range:	-40°C to +85°C at Soldered onto PC Board -10°C to +50°C in Tape/Reel's

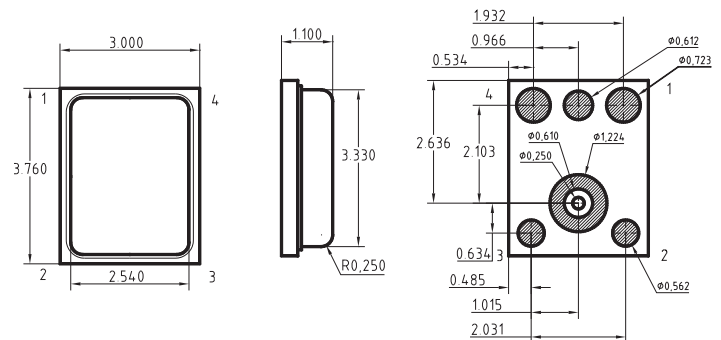
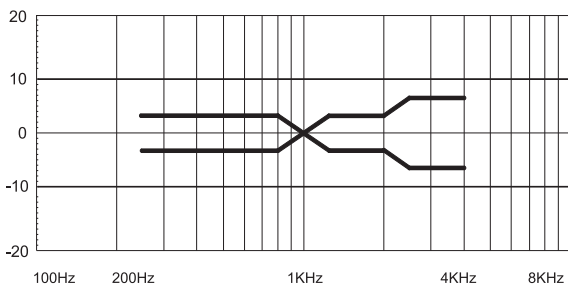


SM0401BL-F383-M01

Directivity:	Omni directional
Sensitivity:	-38±3dB
Output Impedance:	<400Ω
Supply Voltage:	1.5V-3.6V
Current:	0.25mA
S/N Ratio:	60dB
Operating Temperature Range:	-40°C to +85°C
Storage Temperature Range:	-40°C to +85°C at Soldered onto PC Board -10°C to +50°C in Tape/Reel's

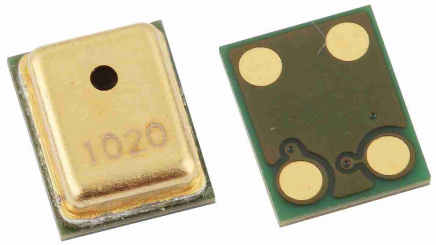


Unit: mm



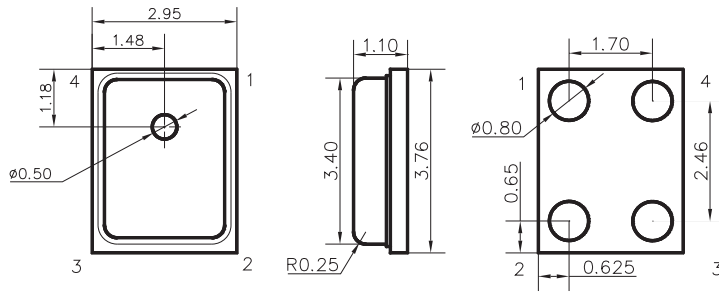
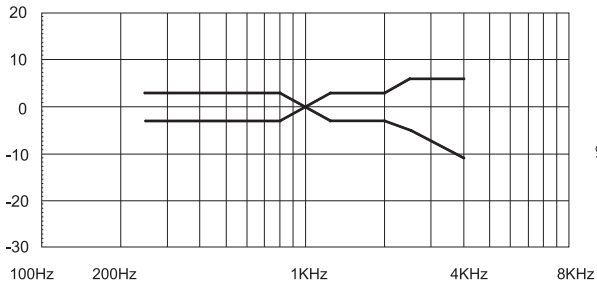


SM0401L-F423-M01



Directivity:	Omni directional
Sensitivity:	-42±3dB
Output Impedance:	<400Ω
Supply Voltage:	1.5V-3.6V
Current:	0.25mA
S/N Ratio:	59dB
Operating Temperature Range:	-40°C to +85°C
Storage Temperature Range:	-40°C to +85°C at Soldered onto PC Board -10°C to +50°C in Tape/Reel's

Unit: mm



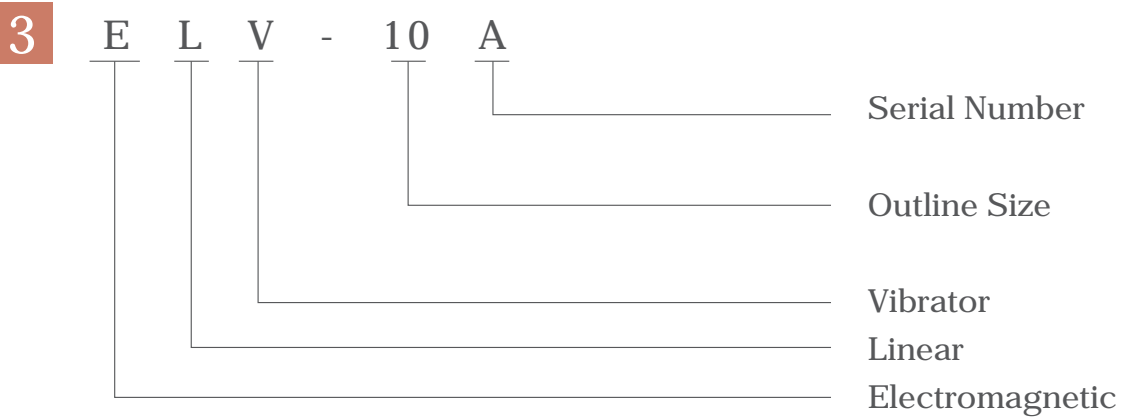
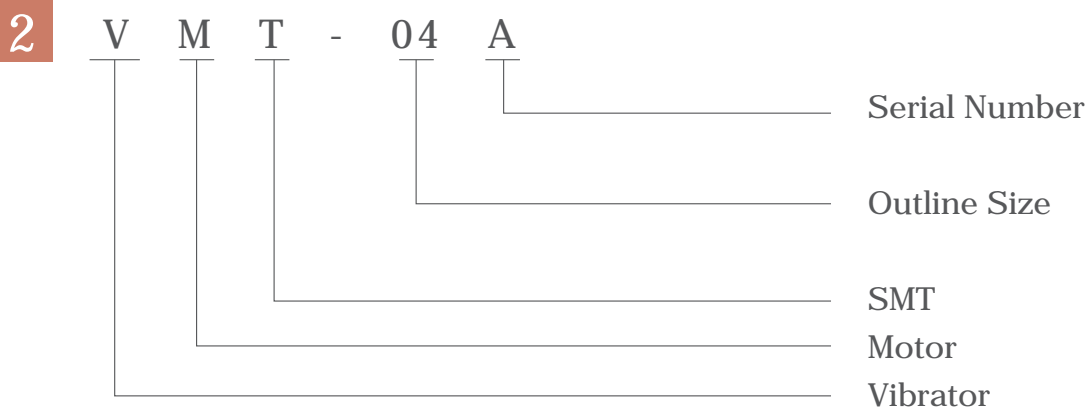
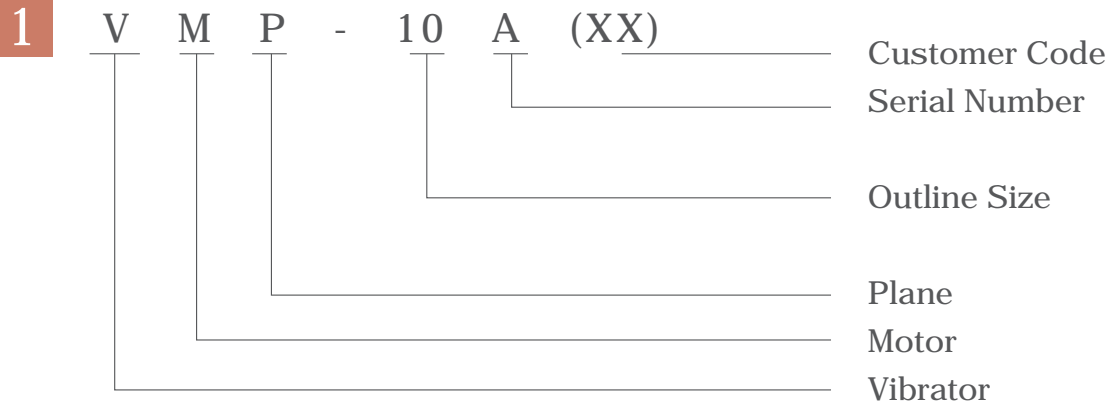
Haptics/Vibrator

P. 41-42

Haptics / Vibrator motors are used as sensory feedback device incoming alert and brushless. Haptics / Vibrator are classified into different types such as iron-core, brushless, vibrating motors, flat or pancake and linear Haptics / Vibrator etc. The main parameters describe the performance including rated voltage, operating voltage, standard speed, standard current, starting voltage, armature resistance and mechanical noise.

Applications: Mobile phones, PNDs

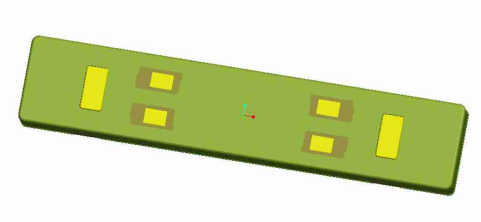
Haptics/Vibrator Naming



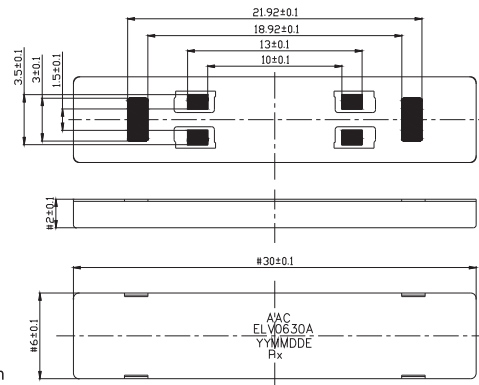


ELV0630A

Weight : 2.8g(nominal)



Rated Voltage: 2Vrms
 Vibration: 7m/s² at 100g Cubic Fixture (Organic Class)
 Resonance Frequency: 157±5Hz
 Shape: 6 x 30 x 2.0mm
 Nominal Operating Current: 150mA max
 Max Input Voltage: 2.3Vrms
 Terminal Resistance: (25±20%)Ω
 Mechanical Noise: 50dBA Max at 10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +80°C



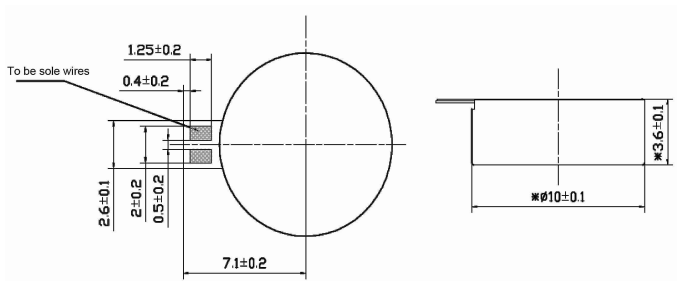
Unit: mm



ELV1036A

Weight : 2.0g(nominal)

Rated Voltage: 2V
 Vibration: 5.0m/s² at 100g Cubic Fixture (Organic Class)
 Resonance Frequency: 175±5Hz
 Shape: φ10 x 3.6mm
 Nominal Operating Current: 80mA max
 Max Input Voltage: 2Vrms
 Terminal Resistance: (25±20%)Ω
 Mechanical Noise: 50dBA Max at 10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +80°C

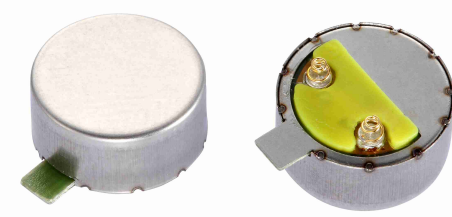


Unit: mm

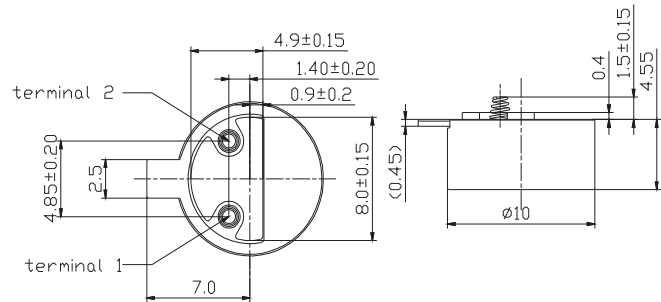


ELV1045AS

Weight : 2.5g(nominal)



Rated Voltage: 1.41Vrms
 Vibration: 4.5m/s² at 140g Cubic Fixture (Organic Class)
 Resonance Frequency: 157±5Hz
 Shape: φ10 x 4.5
 Nominal Operating Current: 60mA max
 Max Input Voltage: 1.875Vrms
 Terminal Resistance: (25±20%)Ω
 Mechanical Noise: 50dBA Max at 10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +80°C



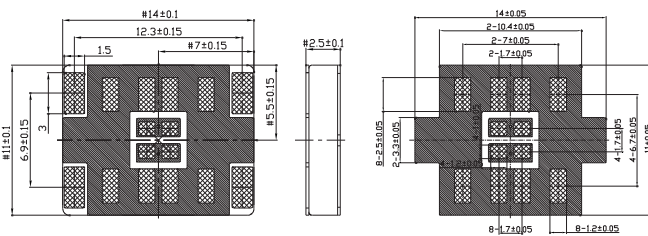
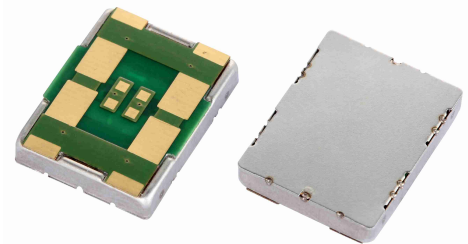
Unit: mm



ELV-1411A

Weight : 2.5g(nominal)

Rated Voltage: 2Vrms
 Vibration: 7m/s² at 100g Cubic Fixture (Organic Class)
 Resonance Frequency: 150±5Hz
 Shape: 14 x 11 x 2.5mm
 Nominal Operating Current: 150mA max
 Max Input Voltage: 2.3Vrms
 Terminal Resistance: (25±20%)Ω
 Mechanical Noise: 50dBA Max at 10cm
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +80°C



Unit: mm

Transducer & Ceramic Product

P. 45-47

Transducer

Transducers or buzzers are used in the mobile phone, consumer electronic devices etc, It converts electrical signals into a simple audible tone. A typical transducer construction comprises of a cap, vibrating disc, annular magnet, coil and casing base with contact terminals such as springs, pins or pads. The transducer with soldering pads called SMD transducer which can be directly fit into a SMT manufacturing line.

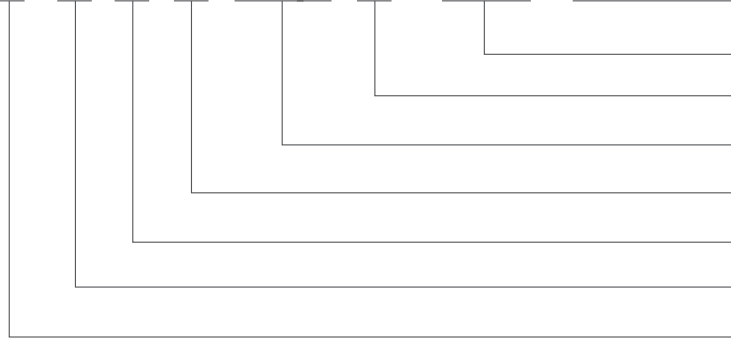
The main parameters describes a transducer's performance are resonance frequency and maximum sound pressure level (SPL), other important parameters include rated voltage (peak-to-peak value), operating voltage (peak-to-peak value), rated current and coil resistance.

Applications: Mobile phone

Transducer Naming

1

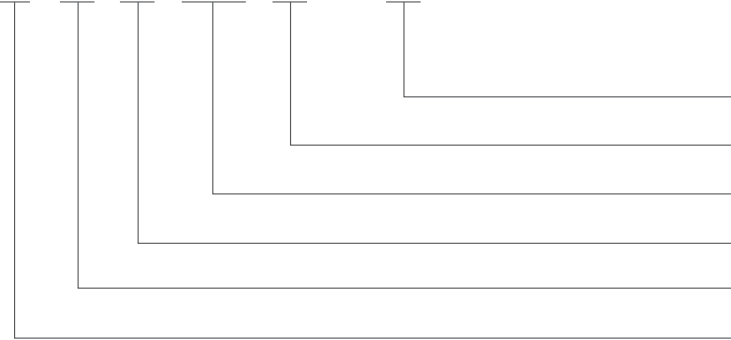
D E T X X X X - X X - G



- Green Product
- Model Number Extension
- Version Number
- Rated Voltage
- External Dimensions
- Transducer
- Electronic
- SMD

2

M P T XX X - G



- Green Product
- Version Number
- External Dimensions
- Transducer
- Piezo
- SMD

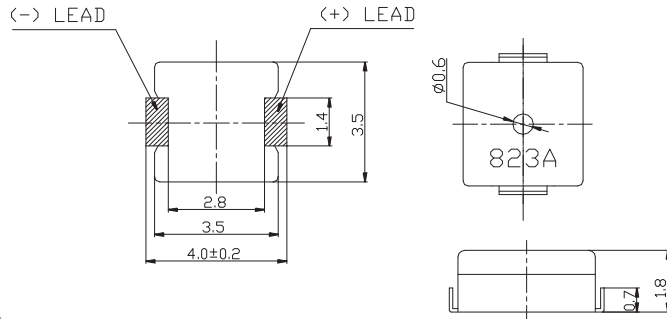


DET301-G

Weight : 0.05g



Size: 3.5 x 3.5 x 1.8mm
 Rated Voltage: 3.0 VDC
 Operating Voltage: 2.0~4.0 VDC
 Rated Current: Max.120mA
 Coil DC Resistance: $10 \pm 2\Omega$
 Sound Output at 5cm: Min.68dBA
 Rated Frequency: 1100Hz
 Housing Material: LCP
 Operating Temperature Range: -40°C to $+85^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



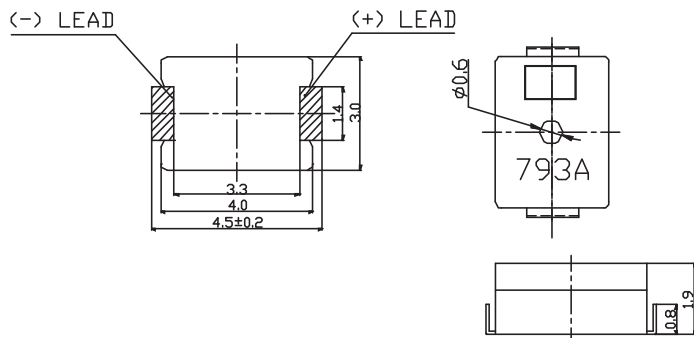
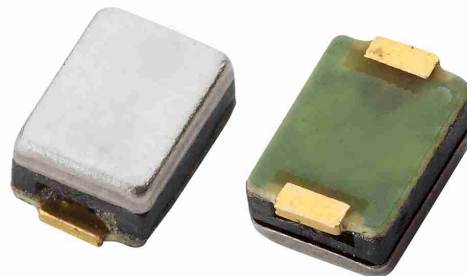
Unit: mm



DET402-G-1

Weight : 0.05g(nominal)

Size: 3.0 x 4.5 x 1.9mm
 Rated Voltage: 3.0VDC
 Operating Voltage: 2.0~4.0VDC
 Rated Current: Max.120mA
 Sound Output at 5cm: Min.70dB
 Resonant Frequency: 1100Hz
 Operating Temperature Range: -40°C to $+85^{\circ}\text{C}$
 Storage Temperature Range: -40°C to $+85^{\circ}\text{C}$



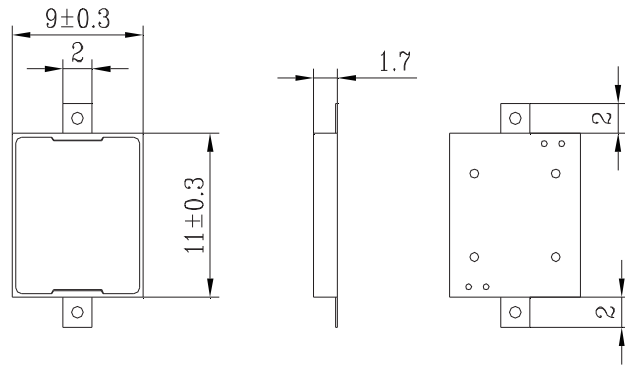
Unit: mm



MPT11-G



Operating Voltage: 1~25 (VP-P)
 Current: ≤ 4.5 (mA)
 Capacitance at 1kHz: $12000 \pm 30\%$ (pF)
 SPL(10cm, 5Vp-p, square wave, 4.1kHz): ≥ 70 (dB)
 Operating Temperature: -40 to +120(°C)
 Storage Temperature: -40 to +120(°C)

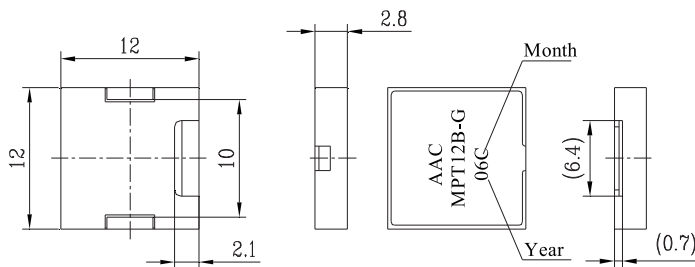
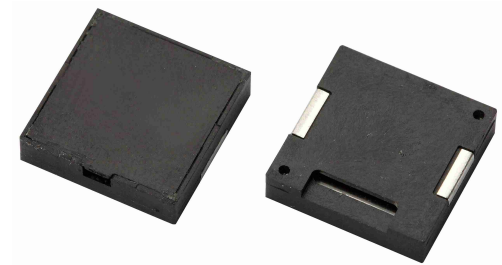


Unit: mm



MPT12B-G

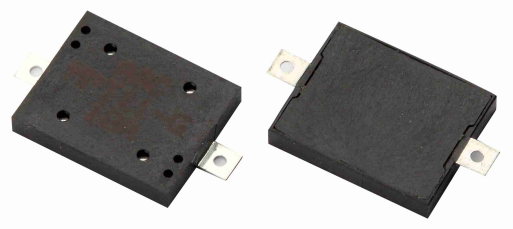
Operating Voltage: 1~25 (VP-P)
 Current: ≤ 3 (mA)
 Capacitance at 1kHz: $15000 \pm 30\%$ (pF)
 SPL(10cm, 3Vp-p, square wave, 4.0kHz): ≥ 75 (dB)
 Operating Temperature: -40 to +120(°C)
 Storage Temperature: -40 to +120(°C)



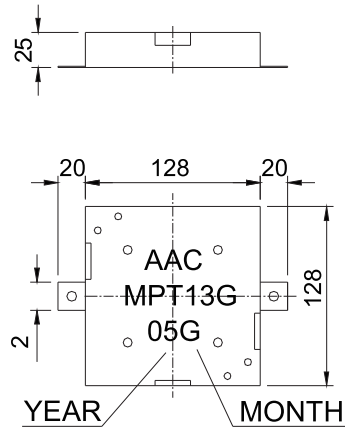
Unit: mm



MPT13-G



Operating Voltage: 1~25 (VP-P)
 Current: ≤ 3 (mA)
 Capacitance at 1kHz: $16000 \pm 30\%$ (pF)
 SPL(10cm, 5Vp-p, square wave, 4.1kHz): ≥ 80 (dB)
 Operating Temperature: -40 to +120(°C)
 Storage Temperature: -40 to +120(°C)

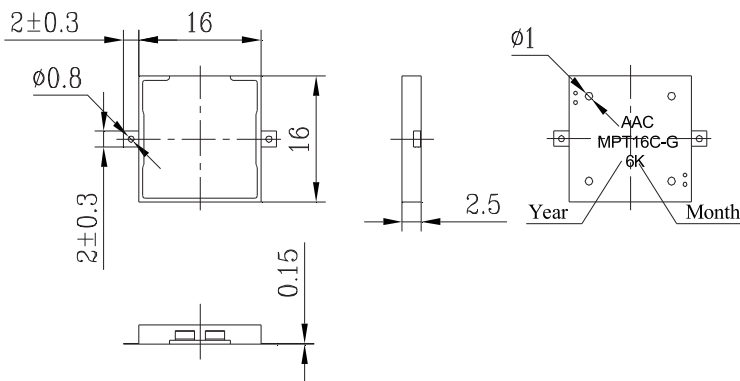
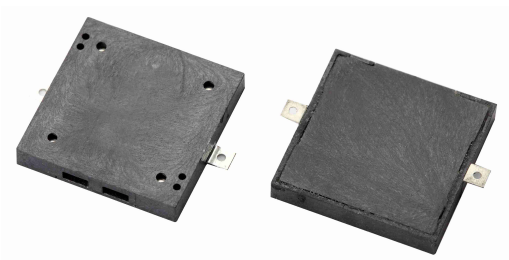


Unit: mm



MPT16C-G

Operating Voltage: 1~25 (VP-P)
 Current: ≤ 1 (mA)
 Capacitance at 1kHz: $14000 \pm 30\%$ (pF)
 SPL(10cm, 3Vp-p, square wave, 4.0kHz): ≥ 75 (dB)
 Operating Temperature: -40 to +120(°C)
 Storage Temperature: -40 to +120(°C)



Unit: mm

Transducer & Ceramic Product

P. 51-54

Ceramic Product

Ceramic speaker is a piezoelectric component, designed to fit mobile phones or laptops, that receives electrical signals from an amplifier and converts the electrical signals into sound signals. In a mobile phone or laptop, the ceramic speaker plays music and sound.

A ceramic speaker generally comprises a ceramic plate, diaphragm and frame, whose thickness is more thinner than a dynamic speaker. The main parameters that describe the ceramic speaker's performance include capacitance (at 120Hz), rated input voltage, maximum input voltage, bass resonance frequency, sensitivity at 2 kHz.

Introduction of Ceramic Filter

A RF ceramic product is an electronic component, designed to fit in the mobile devices, that transform input RF signal into output signal which is appropriate to the signal processing. According to the way of this transformation, It could be named as like 'Band Pass Filter', 'Balun', 'Diplexer', 'Coupler', 'Antenna', 'Balun Filter' and 'Delay Line' etc.

Using ceramic material to implement RF component's function, we could supply smaller and more reliable products to our customers without loss of its performance.

Introduction of Antenna

A ceramic antenna consists of a ceramic body and a conductor which inside the ceramic body or on its surface.

Due to the high dielectric constant of the ceramic materials and the LTCC processing technology, our ceramic antenna products have compact size and low profile. Moreover, the ceramic antennas have high isolation capability to its surrounding antennas and hands influence. These characteristics make our products suitable for using in all kinds of small-sized communication equipments, such as mobile phones, personal digital assistants, globe positioning systems, wireless local area networks and so on.

There are several important parameters like operating frequency, impedance, bandwidth, gain, radiation pattern, efficiency, and polarization. All these parameters can be adjusted during the design process according to the application situation and customer requirement. In addition, we have advanced measurement system, the SG24 of Satimo, to ensure our R&D efficiency.

Introduction of Piezo

A piezoelectric diaphragm consists of a piezoelectric ceramic plate which has electrodes on both sides and a metal plate.(Brass or stainless steel, etc.).

Piezo Ceramic Diaphragm has below advantages:

- Extremely clear sound
- Ultra thin and light weight
- No noise and highly reliable
- Low power consumption for voltage type

Applications:

Clocks / Pagers / Calculators / Washing Machine / Various Alarms (Burglar Alarms, etc.).

Ceramic Product Naming

Ceramic Actuator

Product Category + External Dimension + Version Number + Green Product

Product Category

- Multi Layer Unimorph: ML
- Multi Layer Bimorph: MLB
- Single Layer Unimorph: SL
- Single Layer Bimorph: SLB

External Dimension

- Length and Width in mm

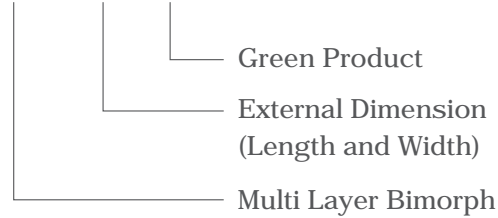
Version Number

- A
- B
- C

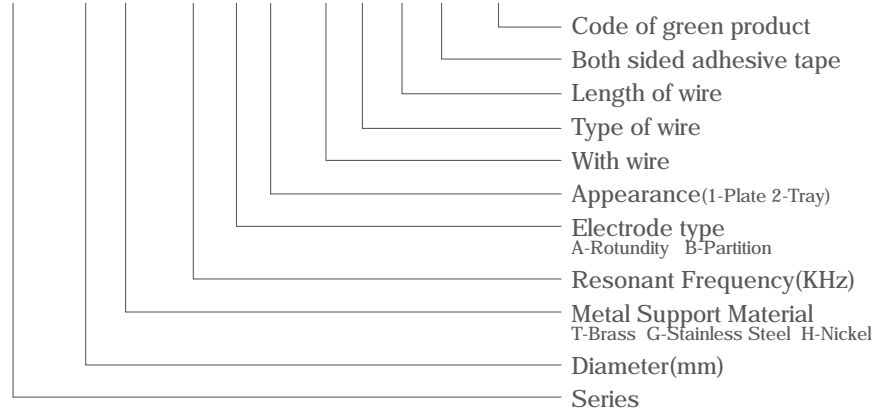
Green Product

- Abbreviation of Green Product

Example : MLB 3503 -G



FT - 12 H - 5.6 A 1 - W L 32 A - G



Ceramic Antenna

AT 2K X 05 52 1 N X
 (1) (2) (3) (4) (5) (6) (7) (8)

1. Product Type: Chip Antenna
2. Center Frequency Index
3. Characteristics Type: Don't care (Residue for the future)
4. Impedance: 50Ω
5. Size: 52g 5.0 x 2.0mm/
31g 3.2 x 1.6mm
6. Thickness: 1.10mm
7. DC Feed: Non DC Feed
8. Serial: Don't care

Ceramic Piezo Disc

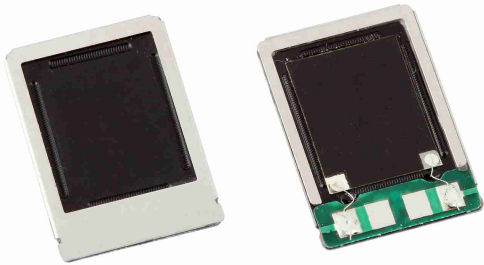
DF TL A 05 32 2 N F
 (1) (2) (3) (4) (5) (6) (7) (8)

1. Product Type: Dual Band Pass Filter
2. Center Frequency: 207MHz / 1472MHz
3. Characteristics Type: Low Insertion Loss
4. Impedance: 50Ω
5. Size: 3.2 x 2.5mm
6. Thickness: 1.2mm
7. DC Feed: Non DC Feed
8. Extra Code

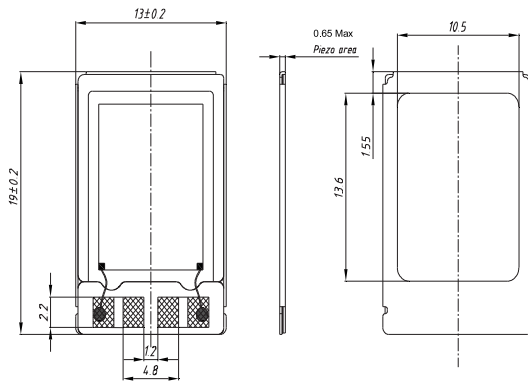
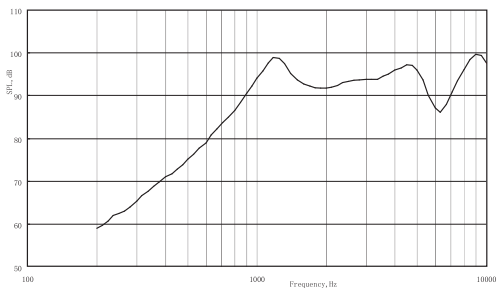


PSF1913D-01

Weight : 0.3g(Normal)



Size(mm): 19 x 13 x 0.5mm
 Capacitance: 900nF ± 20%
 Rated Input Power: 4Vrms
 Maximum Input Power: 5Vrms
 Resonance Frequency: 1200±240Hz
 Sound Pressure Level: 92±4dB@2000Hz(4Vrms, 5cm)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



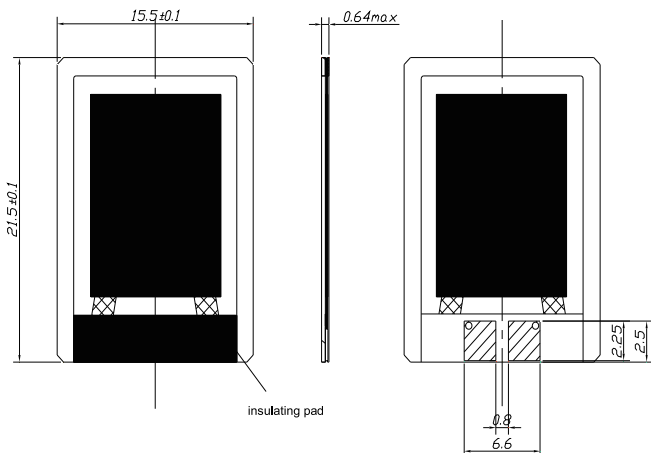
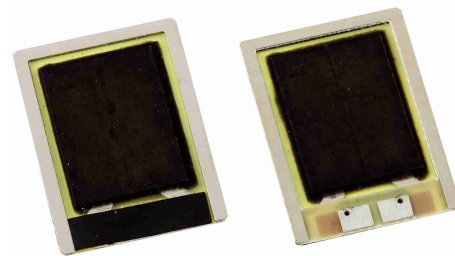
Unit: mm



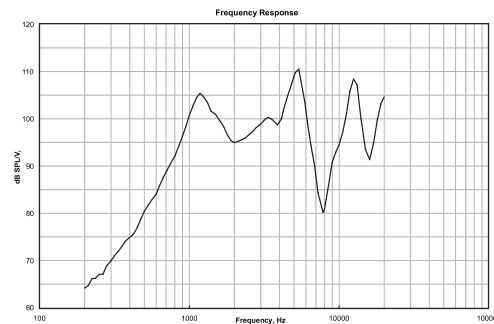
PSF2115A-01-F1

Weight : 0.3g(Normal)

Size(mm): 21.5 x 15.5 x 0.64mm
 Capacitance: 1200nF ± 20%
 Rated Input Power: 5Vrms
 Maximum Input Power: 6Vrms
 Resonance Frequency: 1400±280Hz
 Sound Pressure Level: 100±4dB (5Vrms, 5cm)
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



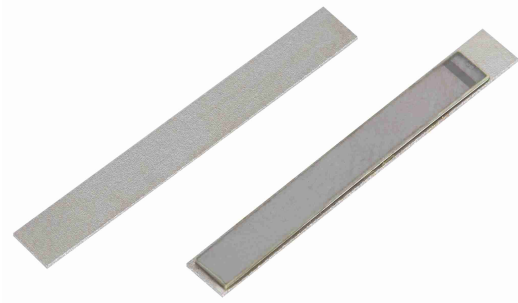
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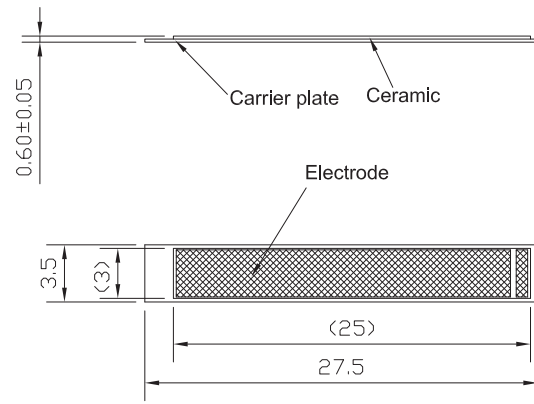


ML2503-G

Weight : 0.45g(nominal)



Size: 27.5 x 3.5 x 0.6mm
 Rated Input Voltage: 30Vpp
 Max Input Voltage: 40Vpp
 Blocking Force: Min. 0.15N
 Free Stroke: Min. 0.25mm
 Capacitance at 120Hz/25°C: 900±20%nF
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



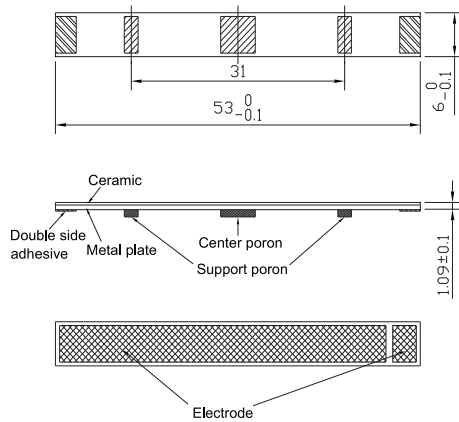
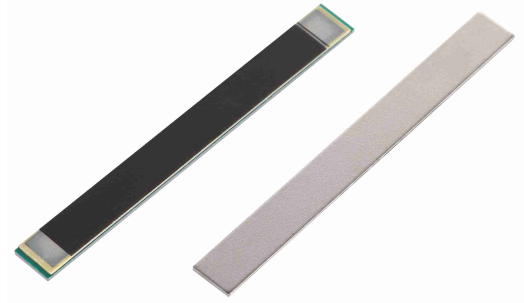
Unit: mm



ML5306-G

Weight : 2.5g(nominal)

Size: 53 x 6 x 1.09mm
 Rated Input Voltage: 24Vpp
 Max Input Voltage: 40Vpp
 Acceleration: Min. 10.5G@200Hz & 20ms & 24Vpp (sine wave)
 Current at 300Hz and Maximum Input Voltage: Max. 80mA
 Capacitance at 120Hz/25°C: Max. 3µF
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



Unit: mm

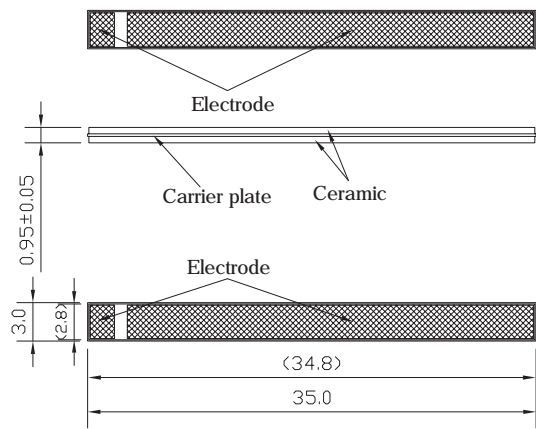


MLB3503-G

Weight : 0.7g(nominal)



Size: 35 x 3 x 0.95mm
 Rated Input Voltage: 100Vpp
 Max Input Voltage: 120Vpp
 Blocking Force: Min. 0.15N
 Free Stroke: Min. 0.25mm
 Capacitance at 120Hz/25°C: 50nF
 Operating Temperature Range: -20°C to +70°C
 Storage Temperature Range: -40°C to +85°C



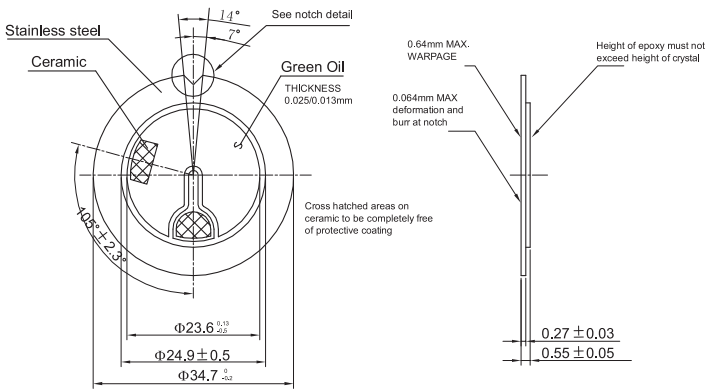
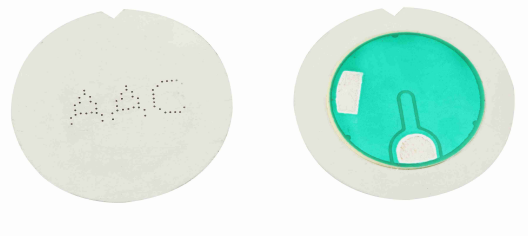
Unit: mm



FT-35G-32B1

Weight : 3.05g(nominal)

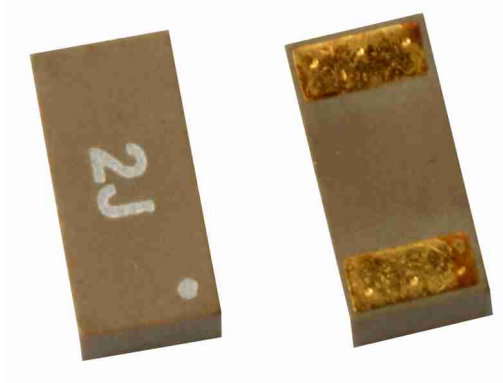
Size: e34.7 x 0.58mm
 Resonant Frequency: 3.28±0.14kHz
 Resonant Impedance: 200Ω max
 Capacitance at 100Hz: 28nF±30%
 Resistance: 200MΩ Min
 Input Voltage(Square Wave): 40Vp-p



Unit: mm



AT(2J)X05311NX

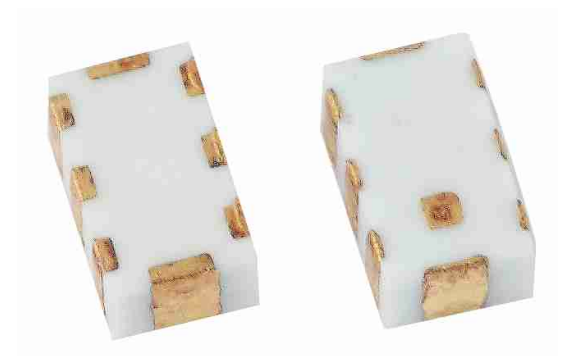


Operating Temperature:	-40°C~ +85°C				
Center Frequency:	2450MHz				
Input Impedance:	50Ω				
Polarization:	Linear				
Frequency:	2400MHz	2420MHz	2450MHz	2480MHz	2500MHz
Gain: Peak:	0.5dBi(25°C)	1.8dBi(25°C)	1.8dBi(25°C)	1.7dBi(25°C)	0.8dBi(25°C)
Average:	-3dBi(25°C)	-1.8dBi(25°C)	-1.3dBi(25°C)	-1.4dBi(25°C)	-2.2dBi(25°C)
Efficiency:	50%	66.20%	74.40%	71.80%	60.30%
V.S.W.R@BW:	3.0 max				



BF24A4R218D8

Center Frequency(=Fc):	2450MHz
Pass Bandwidth(=BW):	±50MHz
Insertion Loss@BW:	3.0dB max.
Unbalanced Impedance:	50Ohm
Balanced Impedance:	100Ohm Conjugate matching to CSR BC04, 05, 06
V.S.W.R@BW(unbalanced port):	2.0 max.
Attenuation:	38dB min. @ 880~960MHz 30dB min. @ 1710~1910MHz 20dB min. @ 4800~5000MHz
Amplitude Balance:	±1.5dB
Phase Balance:	30°±10°
Power Capacity:	500mW
Operation Temperature Range:	-40°C to +85°C





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