



企 業 簡 介

创达电子（潍坊）有限公司，创建于1994年，为新加坡外商独资企业，生产基地位于山东省潍坊经济开发区，占地25000平方米，目前职工约500余人。

公司主要从事设计开发、生产、销售驻极体电容式传声器(麦克风)、受话器、微型喇叭等电声元器件。产品具有精度高、微型化、品种齐全等特点。可提供 $\Phi 3.0 \sim \Phi 9.7$ 的单指向、双指向、全指向的驻极体传声器，各类受话器及50mm以下的各种圆形、方型喇叭。产品主要应用在手机、笔记型计算机、MP3播放器、电子导航器(GPS)、计算机周边产品、数码相机等各类消费性电子产品。

公司建有国内先进的标准消音室，配置有国际权威水平的B&K音频分析仪、阳光测试仪、CLIO测试仪以及完备的信赖性实验室；在生产设备方面，拥有万级及十万级无尘车间，SMD高速贴片机，自动封口机及自动化生产线。经过多年的发展，已经成为国内最有能力设计并生产高品质传声器及喇叭的厂商之一。

在质量管理方面，于2000年导入ISO9001:2000质量管理体系并通过认证、2003年6月导入无铅制程、2005年底通过ISO14001:2004认证、2007年开始推动导入ISO/TS16949:2002。

在市场及营销方面，公司在新加坡、香港、深圳、上海、北京设有营业分公司，负责市场营销和服务。目前传声器的月生产能力为1200万颗，月产量为650万颗；喇叭、受话器的月产量为150万颗。

公司本着“质量第一、信誉至上”的宗旨，愿与各界真诚合作，共创美好未来。

Brief Introduction

Ventronics Electronics (Weifang) CO., LTD, which is a foreign-invested enterprise of Singapore, was founded in 1994. It is located at Weifang Economic Development Zone. Today, it has owned about 25000 square meter factory area and more 500 employees.

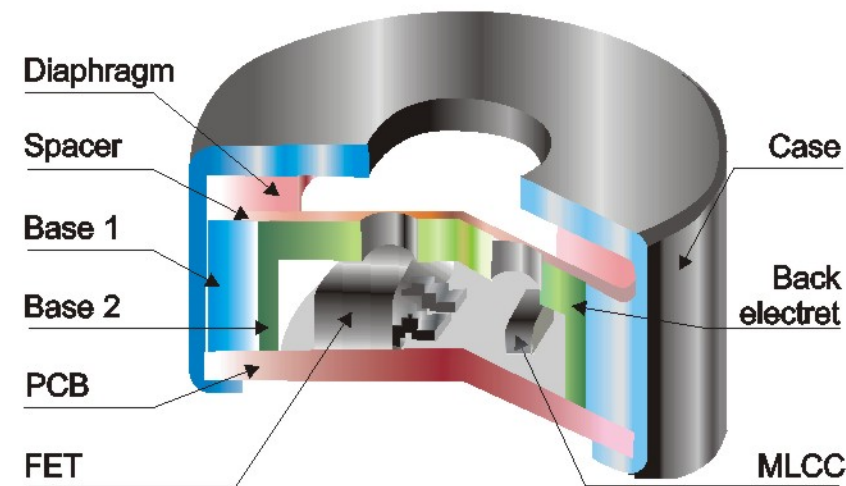
“NAC”, the own-brand of Ventronics Electronics (Weifang) CO., LTD, now is well-known in its industry. We are best in Elect ret Condenser Microphone (diameter from $\Phi 3.0$ mm to $\Phi 9.7$ mm, include Omni-directional, uni-directional, noise cancelling), receiver (round shape, square and oval-shaped), mini speaker (diameter under 50mm). These are popularly applied in mobile, notebook, cordless, corded, audio, mp3 player, PDA, GPS and miscellanies.

In factory side, we own anechoic chamber, B&K 2012 audio analyzer, CLIO audio analyzer, reliability testing laboratory, YAMAHA high-speed SMD machine, auto-sealing machine, clean room and half-auto assembly line. The monthly capacity is twelve million pieces.

In quality management, we have certificated ISO: 9001 in 2000, lead-free process made in 2003, ISO: 14000 authorized in 2005, and now are going to advance ISO/TS16949 in 2007.

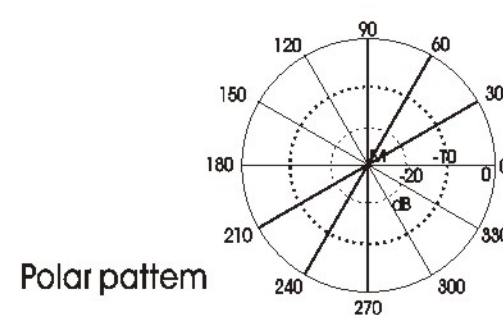
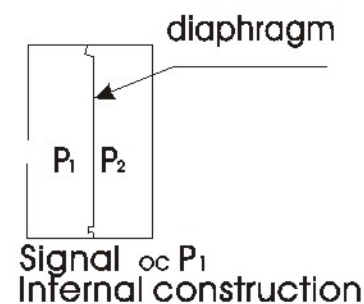
In order to match the market and customer requests, we have setup branch office in Singapore, Hong Kong, China, Shenzhen, Shanghai and Beijing. OEM or ODM will be welcomed.

STRUCTURAL SCHEMA OF ELECTRET CONDENSER MICROPHONE



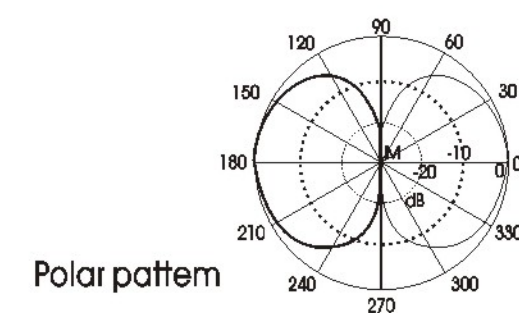
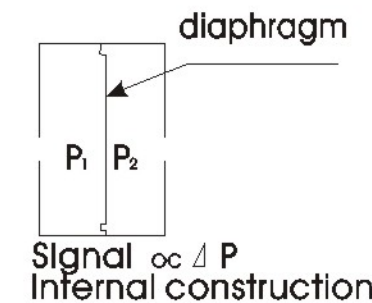
OMNIDIRECTIONAL

An omnidirectional microphone (also known as a pressure microphone) is a microphone that picks up sound equally well from any direction. It has one sound port. Its output is proportional to the SPL (sound pressure level) at the opening of the sound port.



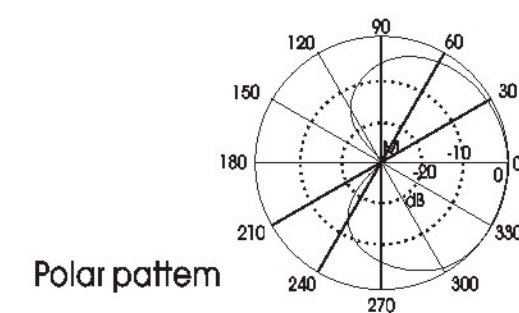
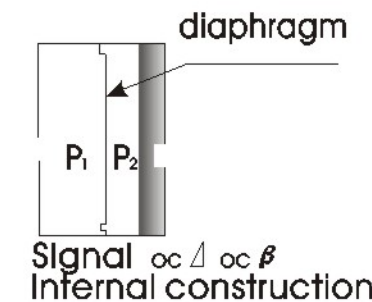
NOISE CANCELLING

A noise cancelling microphone (also known as pressure gradient or close talking) is a directional microphone designed for use close to the talker's mouth. Its directional pattern looks like a figure 8, and is called cosine or bidirectional. Thus, the front and rear ports are interchangeable. This microphone is used in headset booms or hand-held microphones. It provides the greatest signal-to-noise ratio available for acoustically transducing a person's voice.

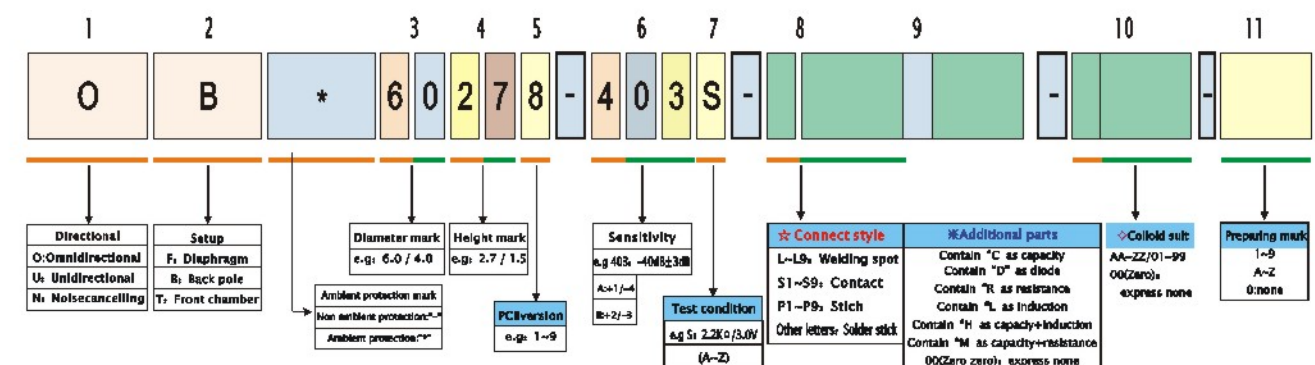


UNIDIRECTIONAL

A unidirectional microphone is a directional microphone that improves the signal-to-noise ratio compared to an omnidirectional mic, if it's close to and pointed at the sound source.



INDEX OF MODEL NAME



Test condition table (compile about facts)

A	B	C	D	E	F	G	H	I	J
1.5V 680Ω	1.5V 1.0kΩ	1.5V 1.5kΩ	1.5V 2.0kΩ	1.5V 2.2kΩ	1.5V 3.0kΩ	2.0V 2.2kΩ	2.5V 2.2kΩ	3.0V 1.0kΩ	3.0V 2.0kΩ
K	L	M	N	P	Q	R	S	T	U
4.5V 2.2kΩ	1.5V 1.2kΩ						3.0V 2.2kΩ		

Notes:

- ★ Connection style: Except for L, S, P, other letters group as soldering marks, detailed specification reference to wire specification figure.
- ※ Additional parts: "C" stands for capacitor, two digital if one contains "C" stands for adding capacitor. e.g. "CA/AC", specifically "CA" stands for what, check the number list; (e.g. CA stands for 6.8pF+33pF compile as facts).
- ◇ Cement sub: "0" stands for none, A~Z/1~9 as cement sub specification marks, detailed reference to its figure.

NO	SPECIFICATIONS MODEL	DIAMETER (mm)	HEIGHT (mm)	SENSITIVITY (dB)	STANDARD POWER SUPPLY(VDC)	CURRENT CONSUMPTION (mA)	EXTERNAL RESISTOR (KΩ)	ELECTRET TYPE	PAGE NUMBER
1	数字型麦克风	6	2.2					BACK	7
2	SMD麦克风	4	1.3	-40~-60	2.0	0.5	2.2	BACK	8
3	OB*3015	3.0	1.5	-44~-60	2.0	0.5	2.2	BACK	9
4	OB*3515	3.5	1.5	-44~-60	2.0	0.5	2.2	BACK	10
5	OB*4010	4	1.0	-42~-60	2.0	0.5	2.2	BACK	11
6	OB*4013	4	1.3	-40~-60	2.0	0.5	2.2	BACK	11
7	OB*4015	4	1.5	-40~-54	2.0	0.5	2.2	BACK	11
8	OB*4018	4	1.8	-40~-54	2.0	0.5	2.2	BACK	11
9	OB*4020	4	2.0	-40~-54	2.0	0.5	2.2	BACK	11
10	OB*4522	4.5	2.2	-40~-54	2.0	0.5	2.2	BACK	12
11	OB*4527	4.5	2.7	-38~-50	2.0	0.5	2.2	BACK; FOIL	12
12	OB*4530	4.5	3.0	-38~-50	2.0	0.5	2.2	BACK; FOIL	12
13	OB*5827	5.8	2.7	-36~-50	2.0	0.5	2.2	BACK; FOIL	13
14	OB*5830	5.8	3.0	-36~-50	2.0	0.5	2.2	BACK; FOIL	13
15	OB*6010	6	1.0	-42~-56	2.0	0.5	2.2	BACK	14
16	OB*6012	6	1.2	-42~-56	2.0	0.5	2.2	BACK	14
17	OB*6015	6	1.5	-42~-54	2.0	0.5	2.2	BACK	14
18	OB*6018	6	1.8	-38~-50	2.0	0.5	2.2	BACK	14
19	OB*6022	6	2.2	-36~-50	2.0	0.5	2.2	BACK	15
20	OB*6027	6	2.7	-36~-50	2.0	0.5	2.2	BACK	15
21	OF*6030	6	3.0	-34~-50	2.0	0.5	2.2	FOIL	15
22	OF*6050	6	5.0	-32~-50	2.0	0.5	2.2	FOIL	16
23	OF*6052	6	5.2	-32~-50	2.0	0.5	2.2	FOIL	16
24	OF*9445	9.4	4.5	-32~-50	3.0	0.5	2.2	FOIL	17
25	OF*9465	9.4	6.5	-32~-50	3.0	0.5	2.2	FOIL	17
26	OF*9745	9.7	4.5	-32~-50	3.0	0.5	2.2	FOIL	18
27	OF*9767	9.7	6.7	-32~-50	3.0	0.5	2.2	FOIL	18
28	NB*4011	4.0	1.1	-56~-70	2.0	0.5	2.2	BACK	19

NO	SPECIFICATIONS MODEL	DIAMETER (mm)	HEIGHT (mm)	SENSITIVITY (dB)	STANDARD POWER SUPPLY(VDC)	CURRENT CONSUMPTION (mA)	EXTERNAL RESISTOR (KΩ)	ELECTRET TYPE	PAGE NUMBER
29	NB*4015	4.0	1.5	-56~-70	2.0	0.5	2.2	BACK	19
30	NB*4018	4.0	1.8	-54~-68	2.0	0.5	2.2	BACK	20
31	NB*4022	4.0	2.2	-54~-68	2.0	0.5	2.2	BACK	20
32	NB*6012	6.0	1.2	-48~-60	2.0	0.5	2.2	BACK	21
33	NB*6015	6.0	1.5	-48~-61	2.0	0.5	2.2	BACK	21
34	NB*6018	6.0	1.8	-44~-56	2.0	0.5	2.2	BACK	21
35	NB*6022	6.0	2.2	-44~-56	2.0	0.5	2.2	BACK	21
36	NB*6027	6.0	2.7	-42~-56	2.0	0.5	2.2	BACK; FOIL	21
37	NF*6036	6.0	3.6	-42~-56	2.0	0.5	2.2	FOIL	22
38	NF*6050	6.0	5.0	-42~-56	2.0	0.5	2.2	FOIL	22
39	NF*9752	9.7	5.2	-44~-56	1.5	0.5	0.68	FOIL	23
40	NF*9767	9.7	6.7	-44~-56	1.5	0.5	0.68	FOIL	23
41	NF*9745	9.7	4.5	-44~-56	1.5	0.5	0.68	FOIL	23
42	UB*4015	4.0	1.5	-44~-56	3.0	0.5	2.2	BACK	24
43	UB*4020	4.0	1.5	-44~-56	3.0	0.5	2.2	BACK	24
44	UB*6018	6.0	1.8	-44~-56	2.0	0.5	2.2	BACK	25
45	UB*6022	6.0	2.2	-44~-56	2.0	0.5	2.2	BACK	25
46	UB*6027	6.0	2.7	-42~-56	2.0	0.5	2.2	BACK; FOIL	25
47	UF*6036	6.0	3.6	-42~-56	2.0	0.5	2.2	FOIL	26
48	UF*6050	6.0	5.0	-42~-56	2.0	0.5	2.2	FOIL	26
49	UF*9745	9.7	4.5	-44~-56	1.5	0.5	0.68	FOIL	27
50	UF*9752	9.7	5.2	-44~-56	1.5	0.5	0.68	FOIL	27
51	UF*9767	9.7	6.7	-44~-56	1.5	0.5	0.68	FOIL	27
52	Waterproof mic							IP67	
53	E-smoke mic	6.0	2.7						
54	MEMS mic								
55									

Omnidirectional Electret Condenser Microphone

数字型麦克风

- Very small, thin type omni-directional microphone
 - Most suited to products having limited space
 - To design for high resistance to vibrations
 -
- 超小超薄型全向性麦克风
 - 最适合自动贴装工艺要求的产品
 - 高抗震、高耐温设计
 -

Appearance 外观图

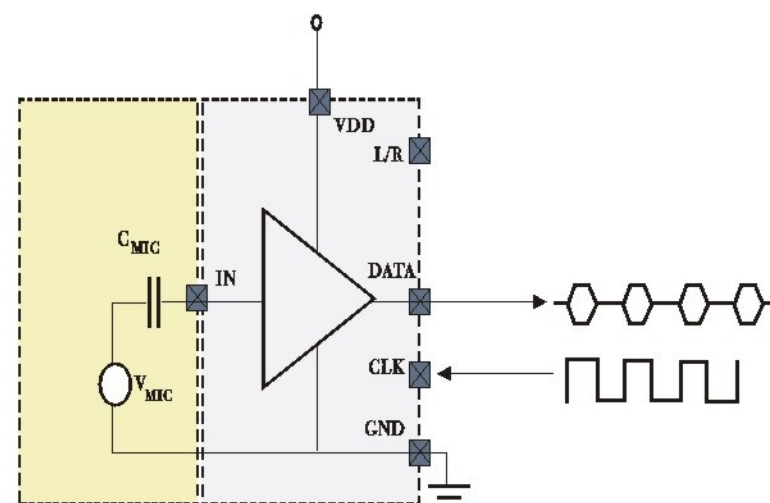


输出



Dimensional drawing 外观尺寸图

Unit:mm



Shape size 外形尺寸

Φ 6.0 X h2.2

Omnidirectional Electret Condenser Microphone

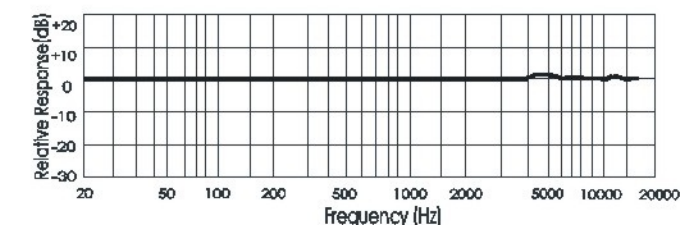
SMD麦克风

- Very small, thin type omni-directional microphone
 - Most suited to products having limited space
 - To design for high resistance to vibrations
 - Capacitor Inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)
- 超小超薄型全向性麦克风
 - 最适合自动贴装工艺要求的产品
 - 高抗震、高耐温设计
 - 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

Appearance 外观图

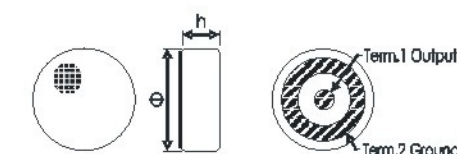


Typical frequency response curve 频率响应曲线



Dimensional drawing 外观尺寸图

Unit:mm



Shape size 外形尺寸

Φ 4.0X h1.3
Φ 4.0X h1.5

Sensitivity range 灵敏度范围

Vs=2.0V
Ri=2.2K Ω

-42±3dB -44±3dB
-46±3dB -48±3dB

Specification

Sensitivity	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2K Ω	灵敏度	2.2K Ω 以下
Directivity	Omni-directional	阻抗	全向
Frequency	20-6,000Hz	方向性	全向
Max. operation voltage	10.0V	频率	20-16,000Hz
Standard Operation voltage	2.0V	最大工作电压	10.0V
Current consumption	Max. 0.5mA	标准工作电压	2.0V
Sensitivity reduction	Within -3dB at 1.5V	电流消耗	最大 0.5mA
S/N ratio	More than 58dB	灵敏度减低	1.5V-3dB 以内
		信噪比	大于 58dB

Omnidirectional Back Electret Condenser Microphone

全向电容式麦克风

OB*3012、3015、3020

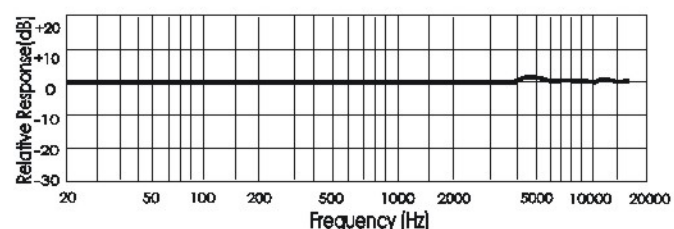
- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小超薄型全向性麦克风
- 最适合有空间要求的产品
- 高抗震设计
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

Appearance 外观图



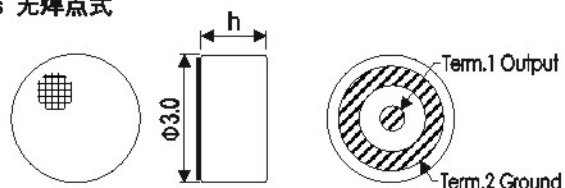
Typical frequency response curve 频率响应曲线



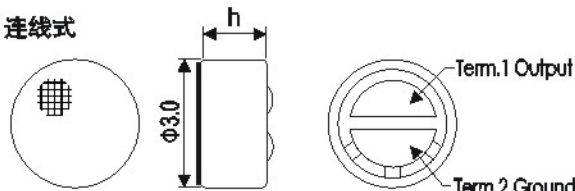
Dimensional drawing 外观尺寸图

Unit:mm

Solderless 无焊点式



Lead-wire 连线式



Shape size 外形尺寸

Φ3.0X h1.2
Φ3.0X h1.5
Φ3.0X h2.0

Sensitivity range 灵敏度范围

Vs=2.0V
RL=2.2KΩ
-44±3dB
-48±3dB
-54±3dB

Specification

Sensitivity	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omni-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 56dB	信噪比	大于 56dB

Omnidirectional Back Electret Condenser Microphone

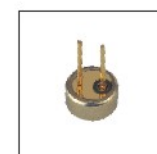
全向电容式麦克风

OB* 3510、3513、3515

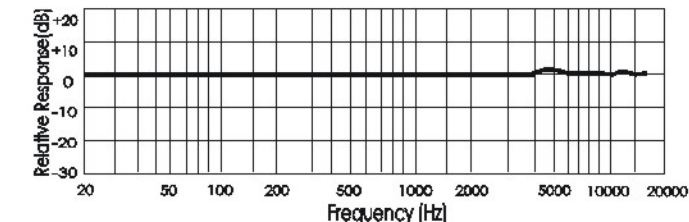
- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小超薄型全向性麦克风
- 最适合有空间要求的产品
- 高抗震设计
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

Appearance 外观图



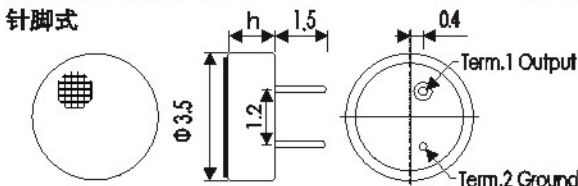
Typical frequency response curve 频率响应曲线



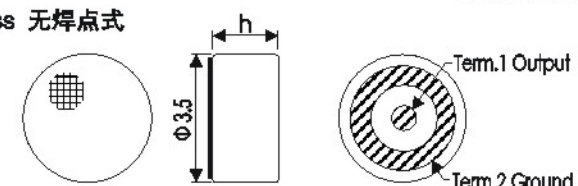
Dimensional drawing 外观尺寸图

Unit:mm

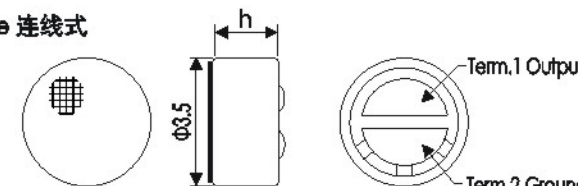
Pin type 针脚式



Solderless 无焊点式



Lead-wire 连线式



Shape size 外形尺寸

Φ3.5X h1.0
Φ3.5X h1.3
Φ3.5X h1.5

Sensitivity range 灵敏度范围

Vs=2.0V
RL=2.2KΩ
-44±3dB
-48±3dB
-54±3dB

Specification

Sensitivity	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omni-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 56dB	信噪比	大于 56dB

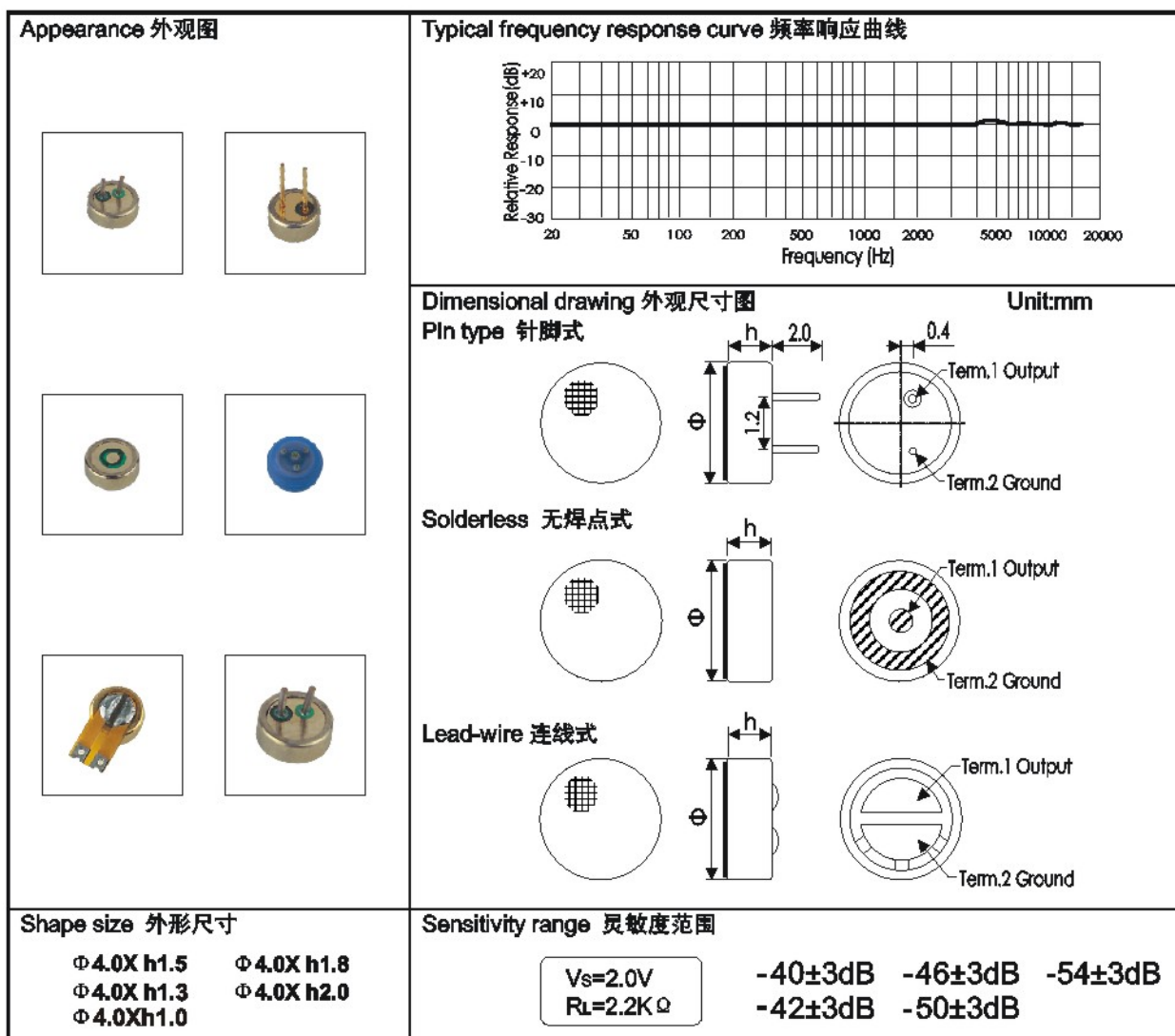
Omnidirectional Back Electret Condenser Microphone

全向电容式麦克风

OB* 4010、4013、4015、4018、4020

- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小超薄型全向性麦克风
- 最适合有空间要求的产品
- 高抗震设计
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omnidirectional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 56dB	信噪比	大于 56dB

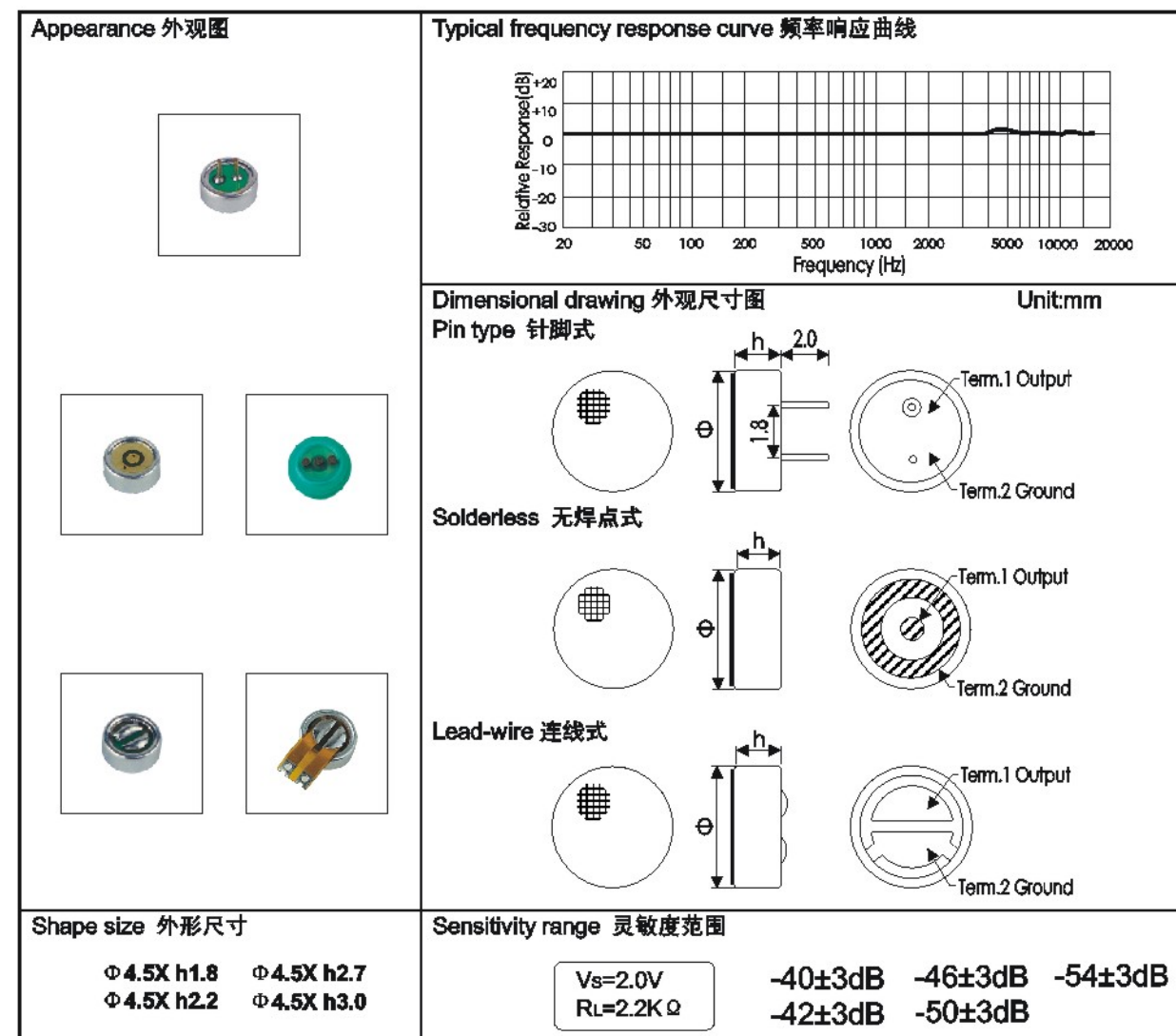
Omnidirectional Back Electret Condenser Microphone

全向电容式麦克风

OB* 4522、4527、4530

- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor inside:
K:10pF(DECT,PHS,PCN,PCS.etc.)
C:33pF(GSM,PDS.etc.)
B: 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小超薄型全向性麦克风
- 最适合有空间要求的产品
- 高抗震设计
- 内部电容
K:10pF(DECT,PHS,PCN,PCS.etc.)
C:33pF(GSM,PDS.etc.)
B: 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



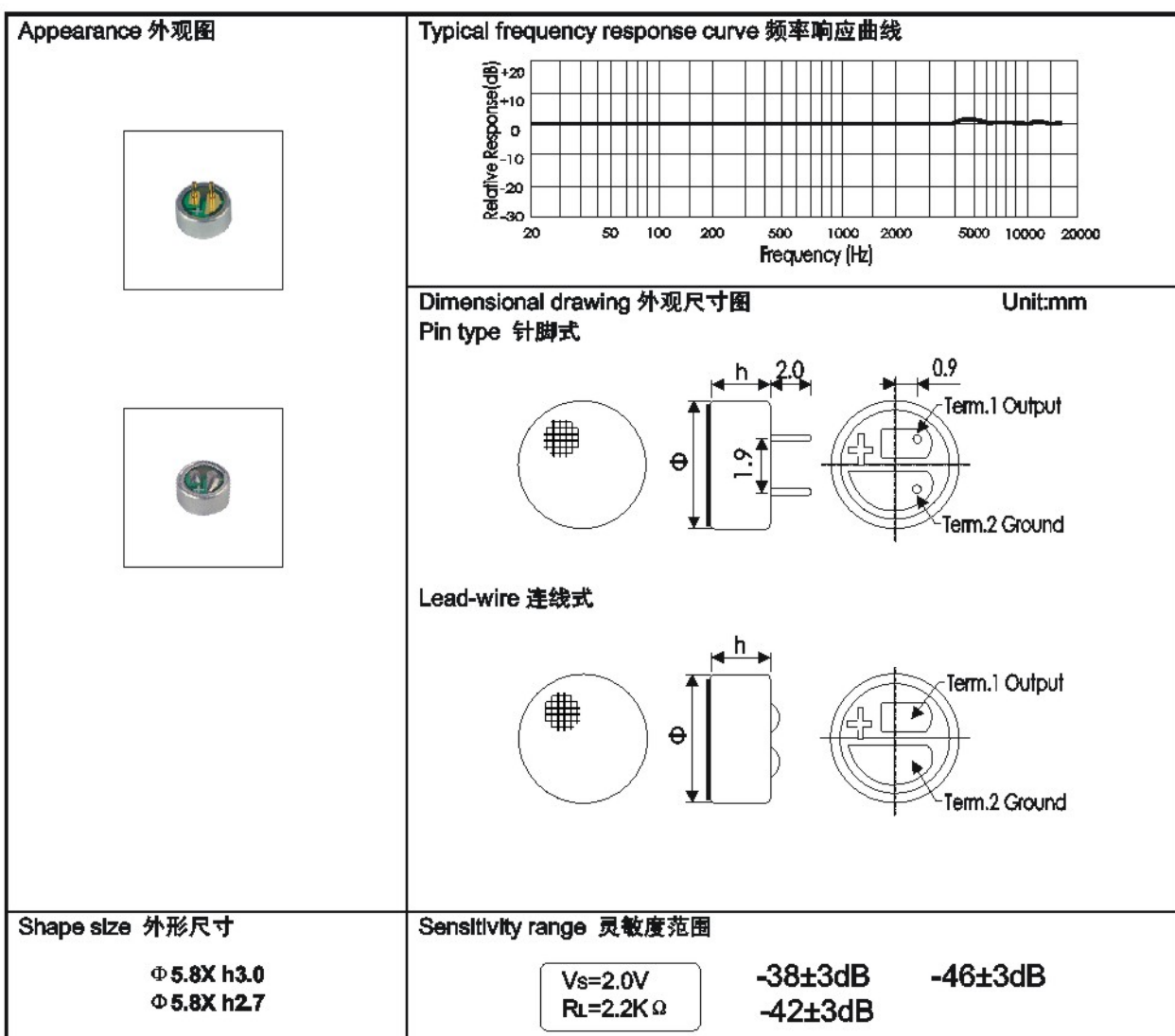
Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omnidirectional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 58dB	信噪比	大于 58dB

Omnidirectional Back Electret Condenser Microphone

全向电容式麦克风

OB*5830、5827

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Very small, thin type omni-directional microphone ● Most suited to products having limited space ● To design for high resistance to vibrations ■ Capacitor Inside: 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) | <ul style="list-style-type: none"> ● 超小超薄型全向性麦克风 ● 最适合有空间要求的产品 ● 高抗震设计 ■ 内部电容 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) |
|--|--|



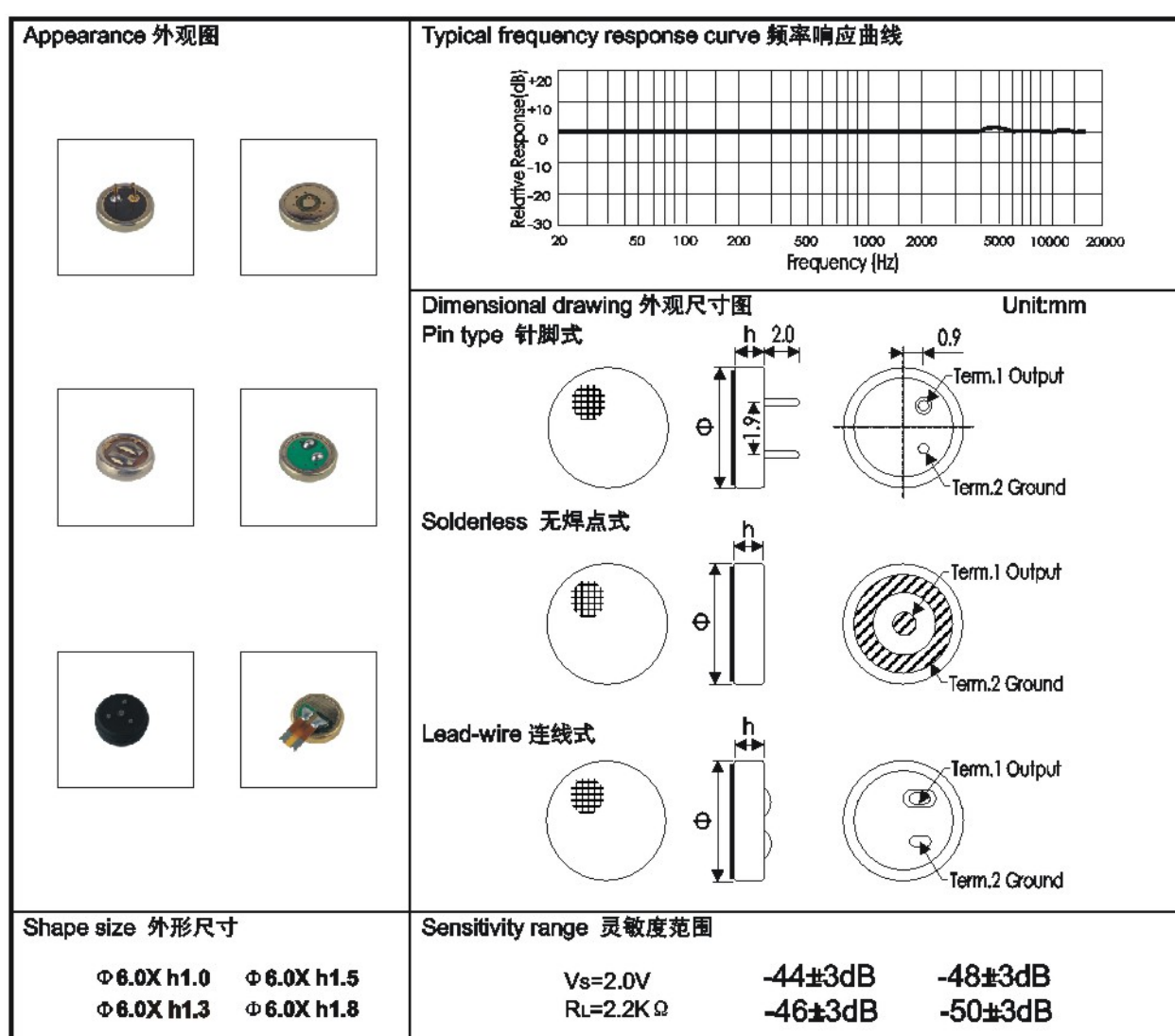
Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omnidirectional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 58dB	信噪比	大于 58dB

Omnidirectional Back Electret Condenser Microphone

全向电容式麦克风

OB*6010、6013、6015、6018

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Very small, thin type omni-directional microphone ● Most suited to products having limited space ● To design for high resistance to vibrations ■ Capacitor Inside: 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) | <ul style="list-style-type: none"> ● 超小超薄型全向性麦克风 ● 最适合有空间要求的产品 ● 高抗震设计 ■ 内部电容 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) |
|--|--|



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omnidirectional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 58dB	信噪比	大于 58dB

Omnidirectional Back Electret Condenser Microphone

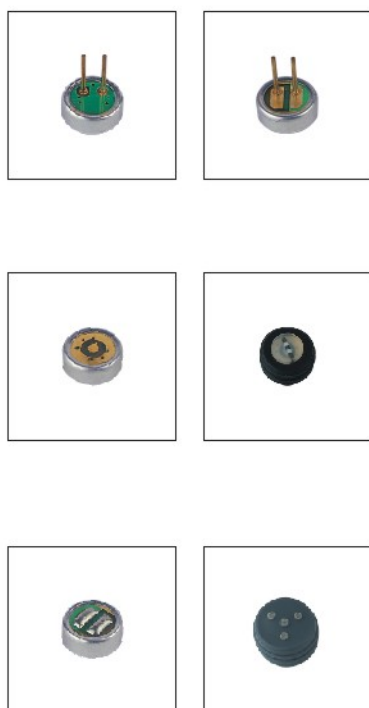
全向电容式麦克风

OB* 6022、6027、6030、6034

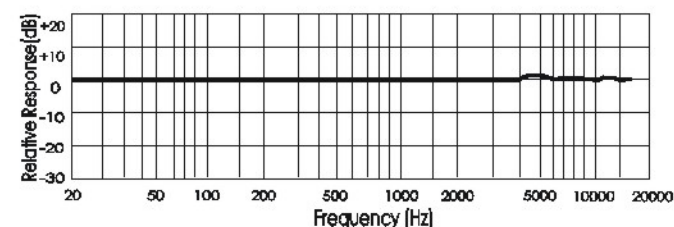
- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inside:
- 10pF(DECT,PHS,PCN,PCS.etc.)
- 33pF(GSM,PDS.etc.)
- 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小型超薄型全向性麦克风
- 最适合有空间要求的产品
- 高抗震设计
- 内部电容
- 10pF(DECT,PHS,PCN,PCS.etc.)
- 33pF(GSM,PDS.etc.)
- 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

Appearance 外观图

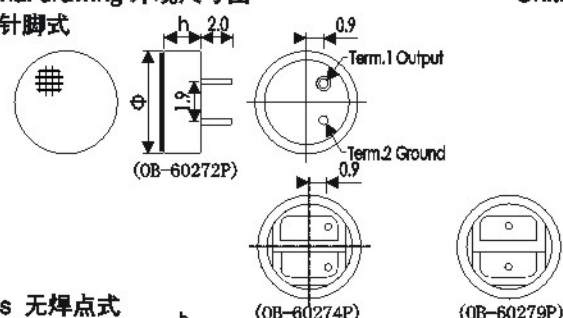


Typical frequency response curve 频率响应曲线

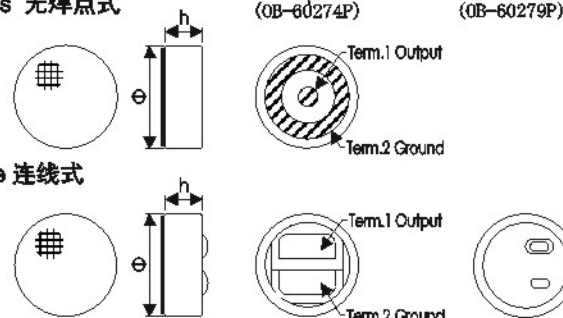


Dimensional drawing 外观尺寸图

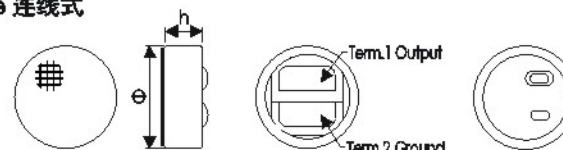
Pin type 针脚式



Solderless 无焊点式



Lead-wire 连线式



Shape size 外形尺寸

Φ 6.0X h2.2 Φ 6.0X h3.0
Φ 6.0X h2.7 Φ 6.0X h3.4

Sensitivity range 灵敏度范围

Vs=2.0V -38±3dB -44±3dB
RL=2.2KΩ -42±3dB -46±3dB

Specification

Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omni-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 58dB	信噪比	大于 58dB

Omnidirectional Foil Electret Condenser Microphone

全向电容式麦克风

OF* 6050、6052

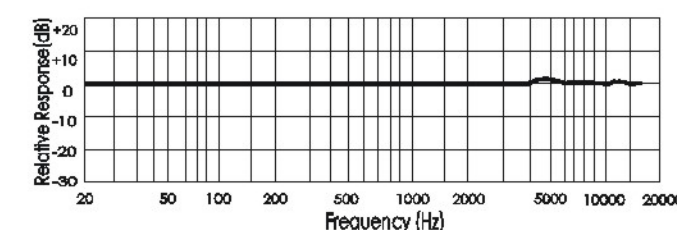
- Small microphone for general use
- To design for high resistance to vibrations
- High sensitivity type

- 普通应用的微型麦克风
- 高抗震设计
- 高灵敏度类型

Appearance 外观图

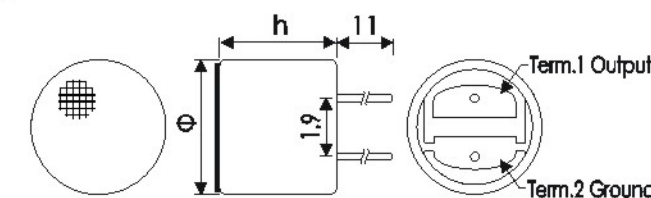


Typical frequency response curve 频率响应曲线

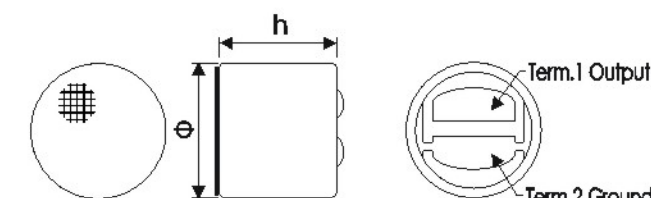


Dimensional drawing 外观尺寸图

Pin type 针脚式



Lead-wire 连线式



Shape size 外形尺寸

Φ 6.0X h5.2
Φ 6.0X h5.0

Sensitivity range 灵敏度范围

Vs=2.0V -34±3dB -42±3dB
RL=2.2KΩ -38±3dB -46±3dB

Specification

Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Omni-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 58dB	信噪比	大于 58dB

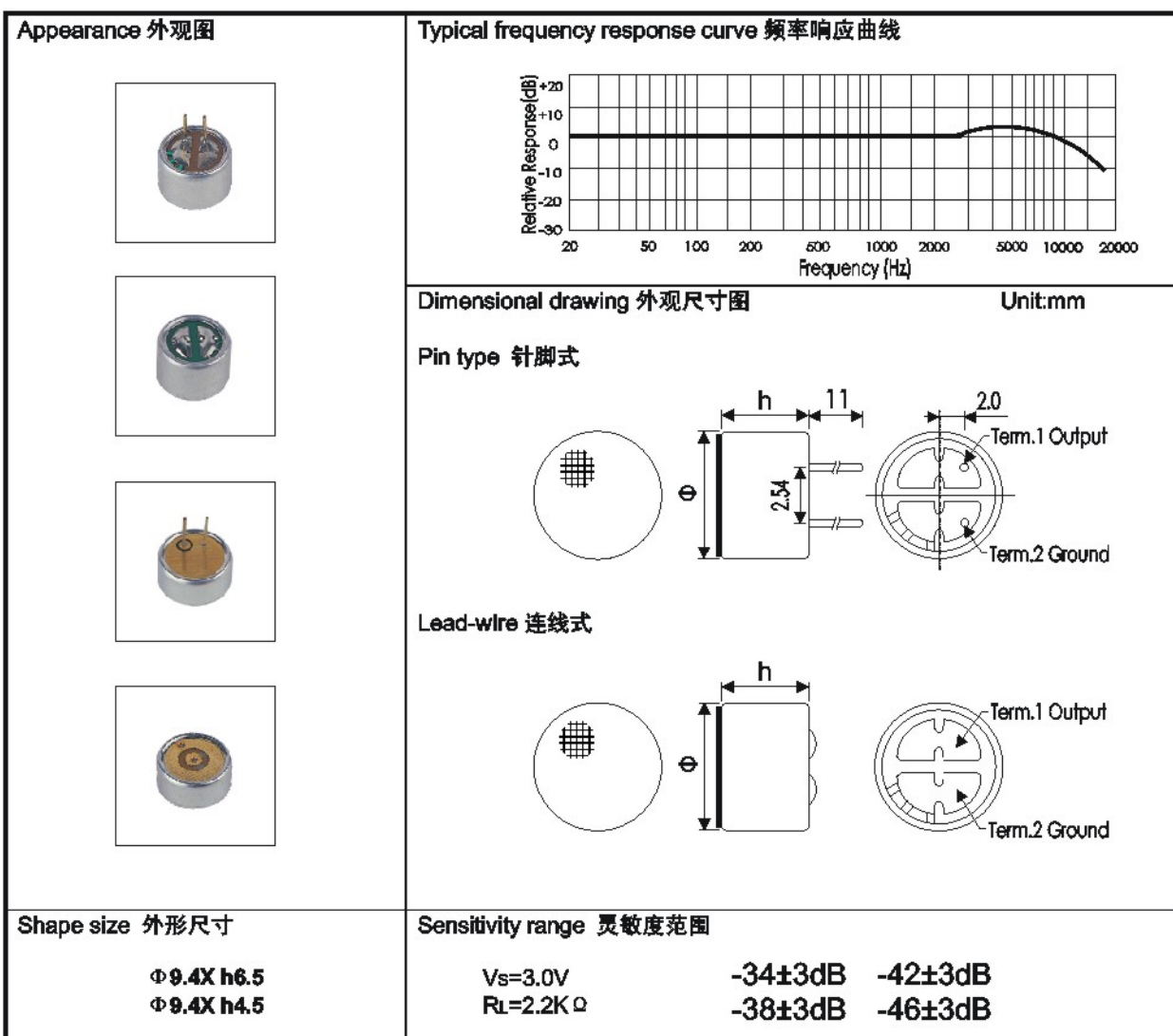
Omnidirectional Foil Electret Condenser Microphone

全向电容式麦克风

OF * 9445、9465

- Useful for almost any type telephone and other applications
- High sensitivity type
- Low operation voltage of 1.0V to 10V

- 应用于任何类型的电话机和其他应用
- 高灵敏度类型
- 1.0V to 10V 低工作电压



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2K Ω	阻抗	2.2K Ω 以下
Directivity	Omn-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	3.0V	标准工作电压	3.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 60dB	信噪比	大于 60dB

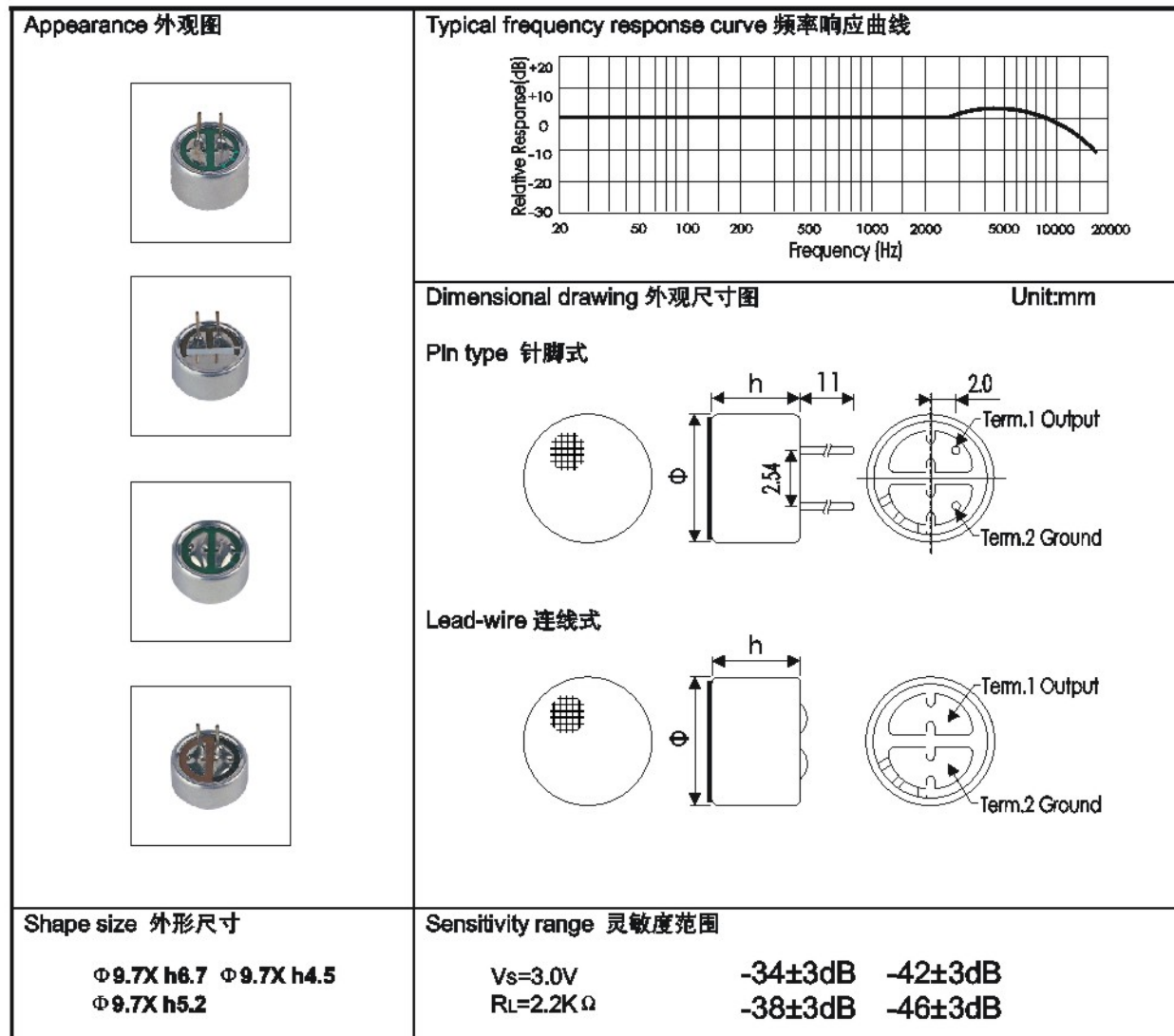
Omnidirectional Foil Electret Condenser Microphone

全向电容式麦克风

OF * 9745、9752、9767

- Useful for almost any type telephone and other applications
- High sensitivity type
- Low operation voltage of 1.0V to 10V

- 应用于任何类型的电话机和其他应用
- 高灵敏度类型
- 1.0V to 10V 低工作电压



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2K Ω	阻抗	2.2K Ω 以下
Directivity	Omn-directional	方向性	全向
Frequency	20-16,000Hz	频率	20-16,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	3.0V	标准工作电压	3.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 60dB	信噪比	大于 60dB

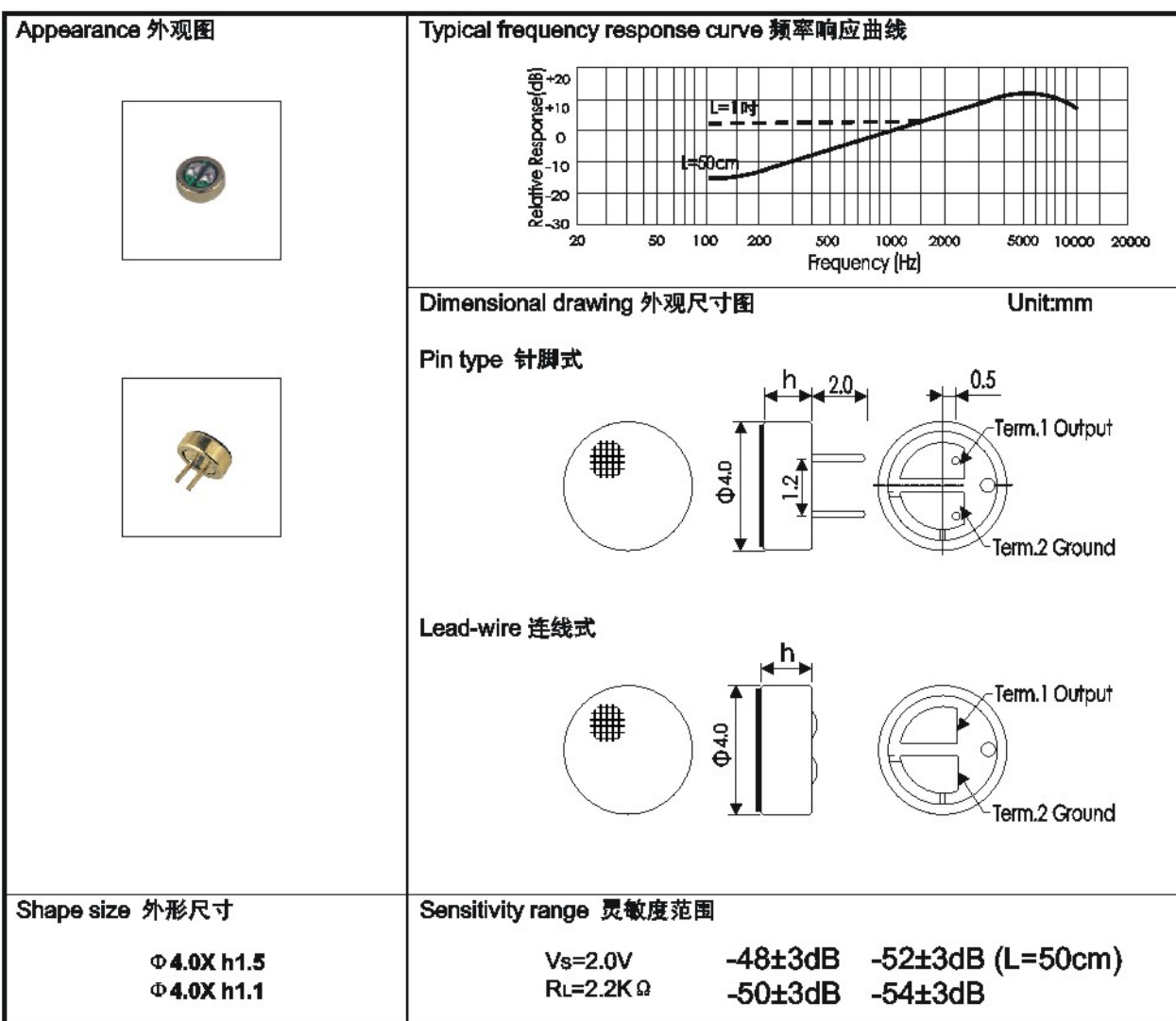
Noise Cancelling Back Electret Condenser Microphone

双向电容式麦克风

NB* 4011、4015

- Very small, thin type
- Close talk characteristics effectively reduce ambient noise
- Most suited to products having limited space
- Capacitor inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小型,超薄型
- 近距高讲话特性,有效地降低周围噪声
- 最适合有空间要求的产品
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



Specification	规格
Sensitivity	See above (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2K Ω
Directivity	Noise cancelling
Frequency	100-10,000Hz
Max. operation voltage	10.0V
Standard Operation voltage	2.0V
Current consumption	Max. 0.5mA
Sensitivity reduction	Within -3dB at 1.5V
S/N ratio	More than 50dB

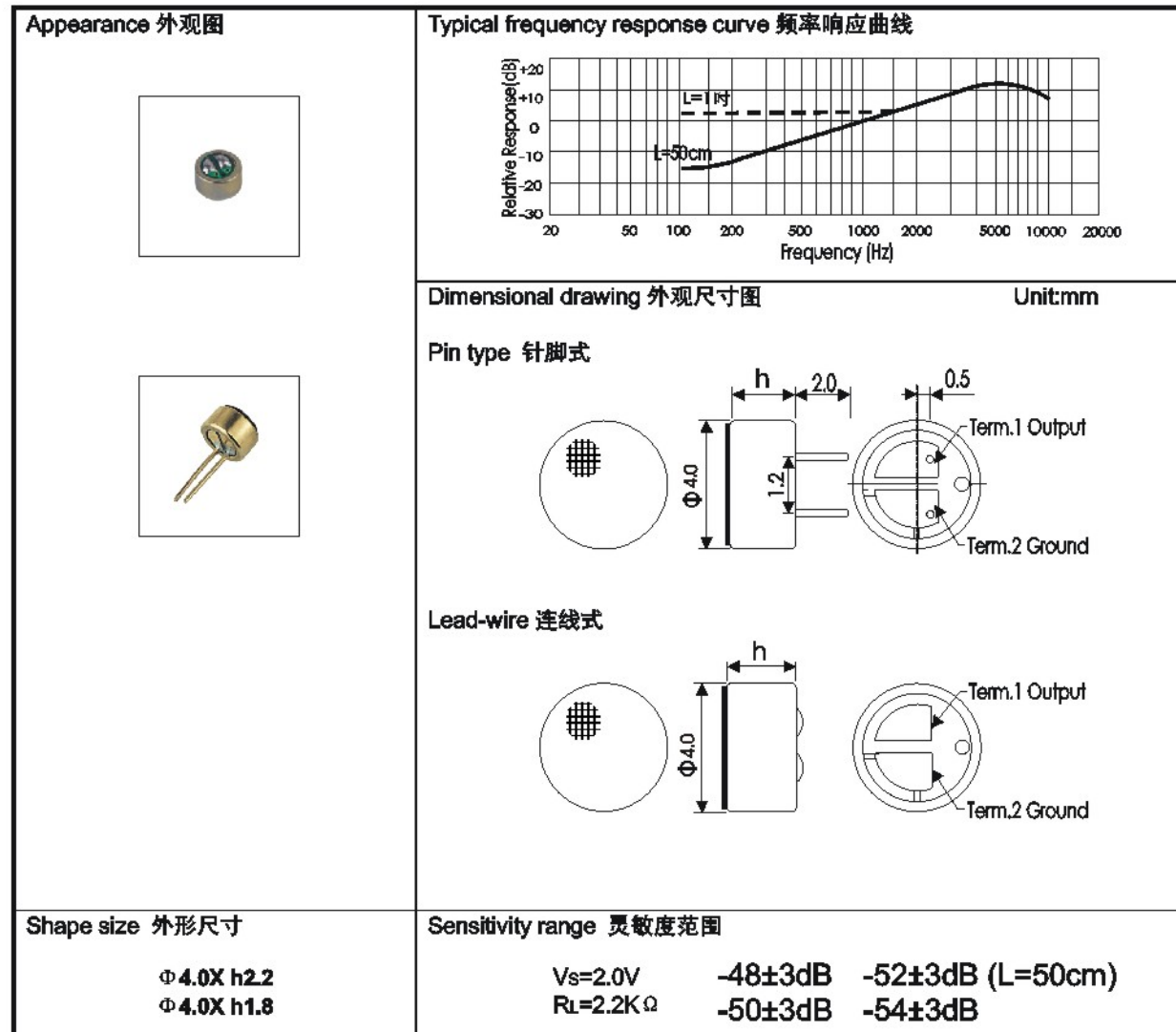
Noise Cancelling Back Electret Condenser Microphone

双向电容式麦克风

NB* 4018、4020、4022

- Very small, thin type
- Close talk characteristics effectively reduce ambient noise
- Most suited to products having limited space
- Capacitor inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小型,超薄型
- 近距高讲话特性,有效地降低周围噪声
- 最适合有空间要求的产品
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



Specification	规格
Sensitivity	See above (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2K Ω
Directivity	Noise cancelling
Frequency	100-10,000Hz
Max. operation voltage	10.0V
Standard Operation voltage	2.0V
Current consumption	Max. 0.5mA
Sensitivity reduction	Within -3dB at 1.5V
S/N ratio	More than 50dB

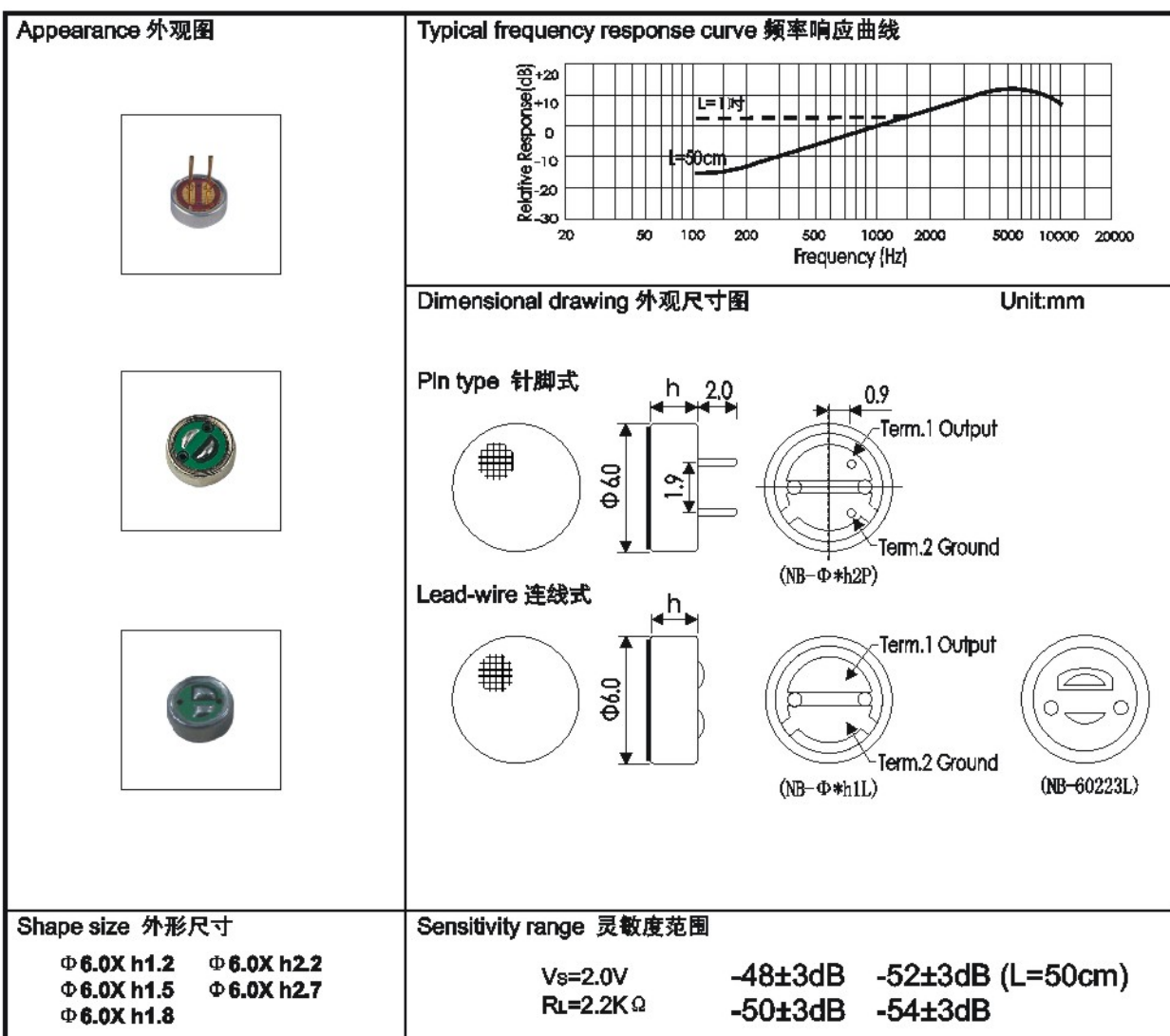
Noise Cancelling Back Electret Condenser Microphone

双向电容式麦克风

NB* 6012、6015、6018、6022、6027

- Very small, thin type
- Close talk characteristics effectively reduce ambient noise
- Most suited to products having limited space
- Capacitor inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小,超薄型
- 近距离讲话特性,有效地降低周围噪声
- 最适合有空间要求的产品
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Noise cancelling	方向性	抗噪型, 双指向性
Frequency	100-10,000Hz	频率	100-10,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 50dB	信噪比	大于 50dB

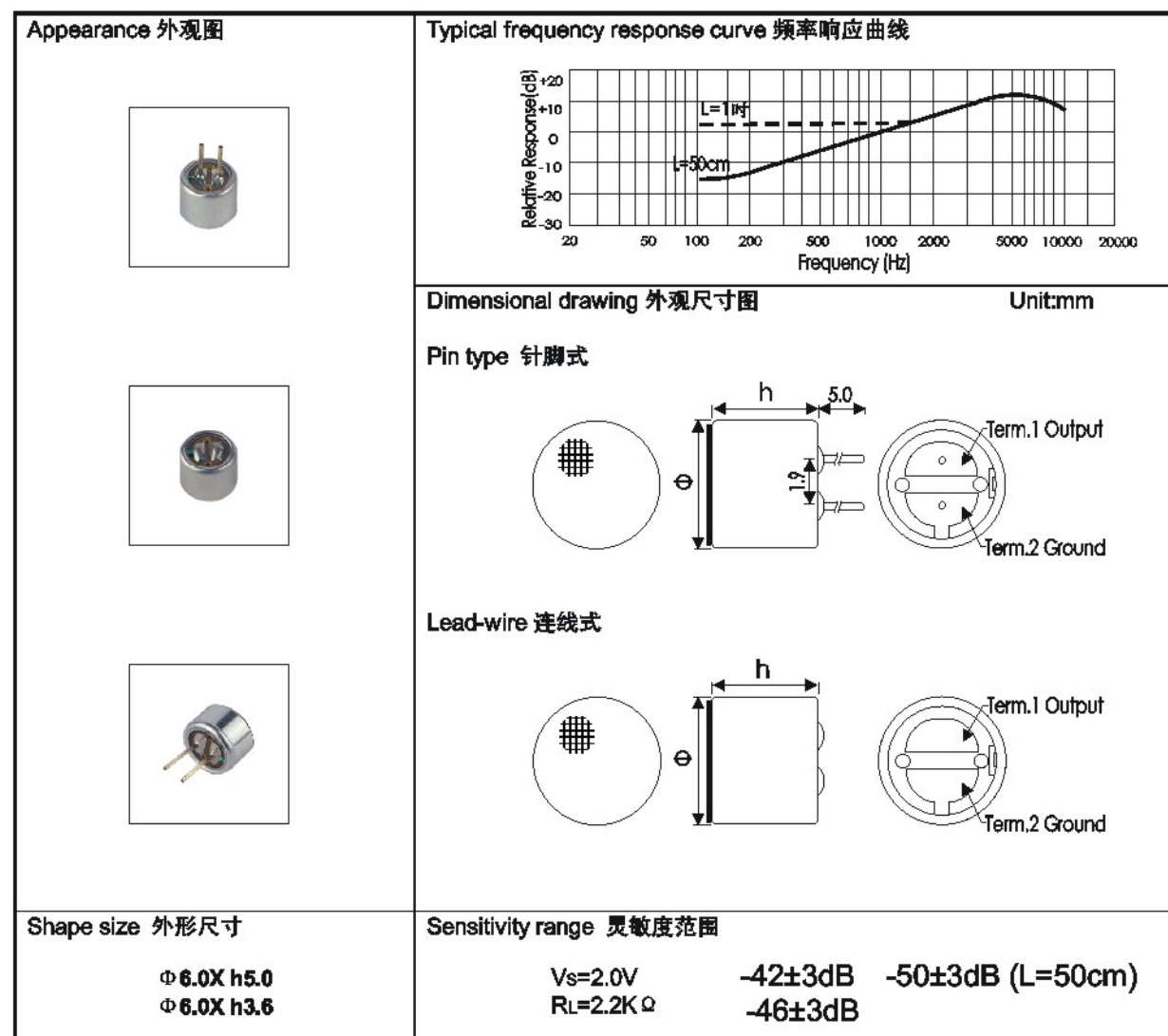
Noise Cancelling Foil Electret Condenser Microphone

双向电容式麦克风

NF* 6036、6050

- Small noise-cancelling electret microphone
- Close talk characteristics effectively reduce ambient noise
- Suited to products having limited space

- 小型抗噪型麦克风
- 近距离讲话特性,有效地降低周围噪声
- 适合有空间要求的产品



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Noise cancelling	方向性	抗噪型, 双指向性
Frequency	100-10,000Hz	频率	100-10,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 50dB	信噪比	大于 50dB

Noise Cancelling Foil Electret Condenser Microphone

双向电容式麦克风

NF*9745、9752、9767

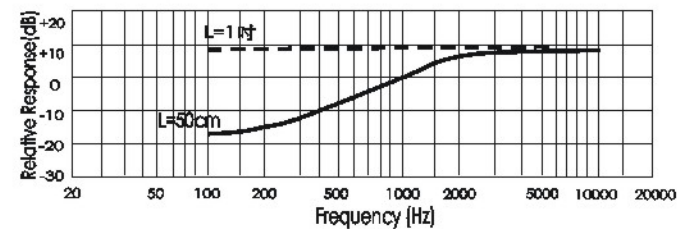
- Small noise-cancelling electret microphone
- Close talk characteristics effectively reduce ambient noise

- 小型抗噪型麦克风
- 近距离讲话特性, 有效地降低周围噪声

Appearance 外观图



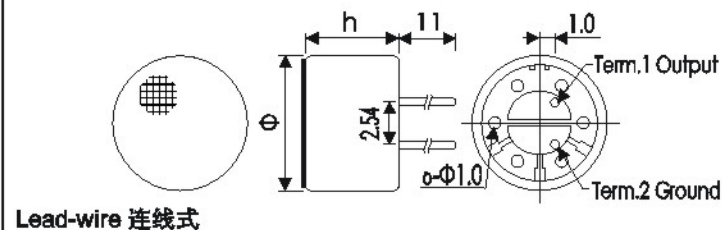
Typical frequency response curve 频率响应曲线



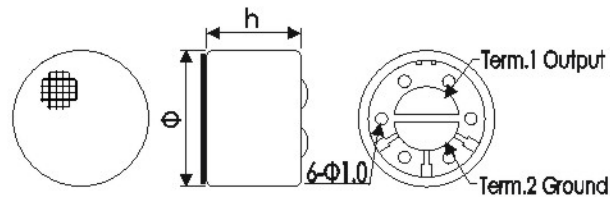
Dimensional drawing 外观尺寸图

Pin type 针脚式

Unit:mm



Lead-wire 连线式



Shape size 外形尺寸

Φ9.7X h5.2
Φ9.7X h6.7
Φ9.7X h4.5

Sensitivity range 灵敏度范围

Vs=1.5V
RL=680Ω
-48±3dB -52±3dB (L=50cm)
-50±3dB -54±3dB

Specification

Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 680Ω	阻抗	680Ω 以下
Directivity	Noise cancelling	方向性	抗噪型, 双向指向性
Frequency	100-10,000Hz	频率	100-10,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	1.5V	标准工作电压	1.5V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.1V	灵敏度减低	1.1V-3dB 以内
S/N ratio	More than 55dB	信噪比	大于 55dB

Unidirectional Back Electret Condenser Microphone

单向电容式麦克风

UB*4015、4020

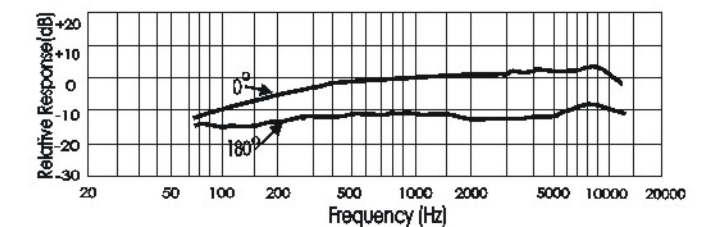
- Very small unidirectional microphone
- Suited to HI-FI sound and playback systems
- To design for high resistance to vibrations
- Capacitor inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小型单向麦克风
- 适宜于高保真音响和录音重播系统
- 高抗震设计
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

Appearance 外观图



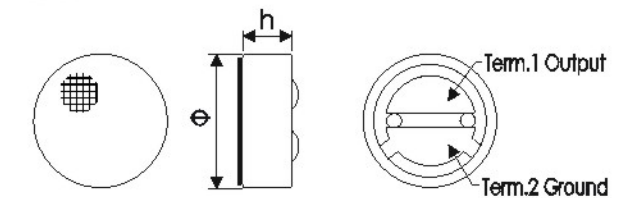
Typical frequency response curve 频率响应曲线



Dimensional drawing 外观尺寸图

Unit:mm

Lead-wire 连线式



Shape size 外形尺寸

Φ4.0X h1.5
Φ4.0X h2.0

Sensitivity range 灵敏度范围

Vs=2.0V
RL=2.2KΩ
-48±3dB -52±3dB (L=50cm)
-50±3dB

Specification

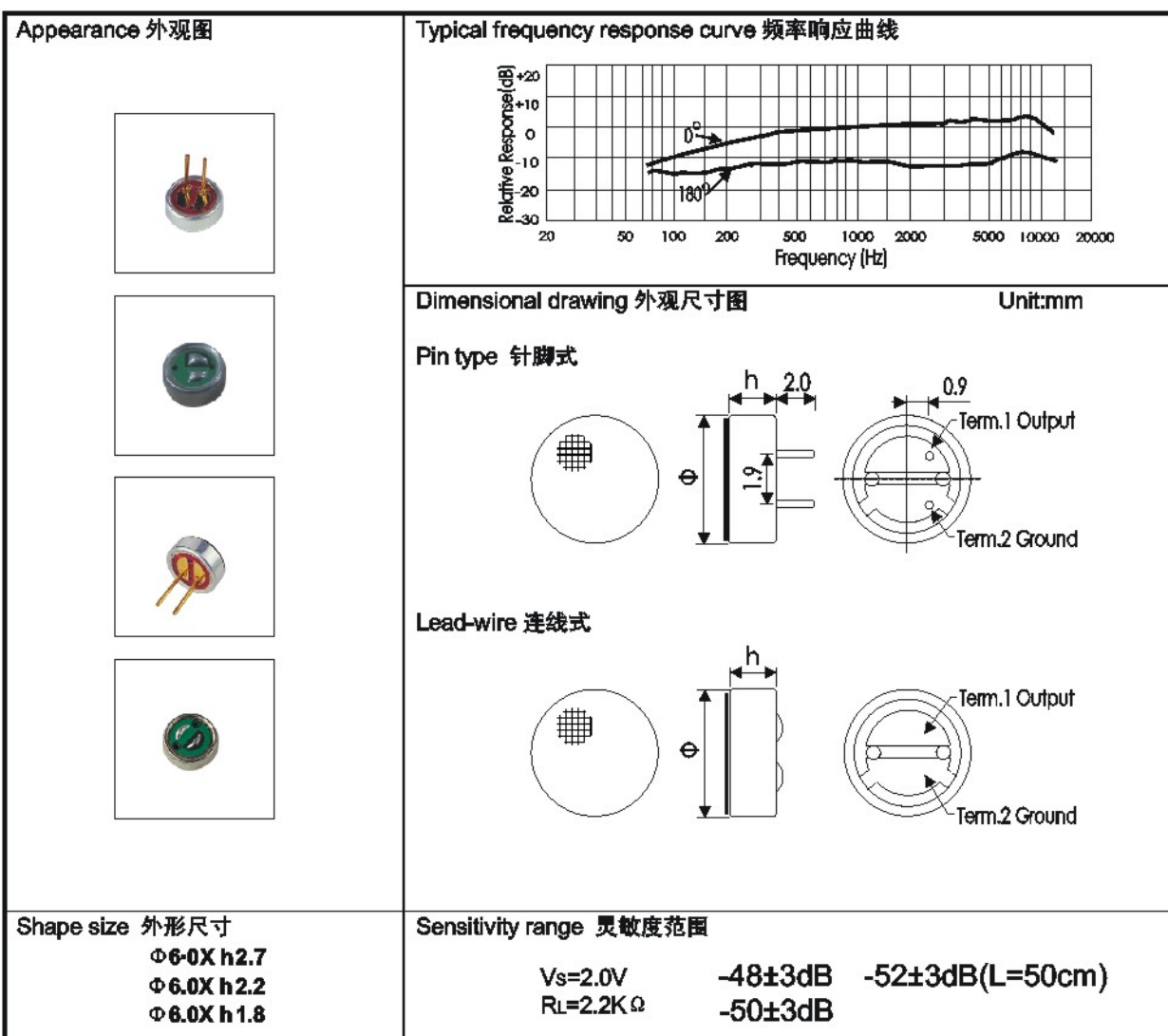
Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa, 1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Uni-directional	方向性	单向
Frequency	100-12,000Hz	频率	100-12,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 55dB	信噪比	大于 55dB

Unidirectional Back Electret Condenser Microphone

单向电容式麦克风

UB * 6018、6022、6027

- | | |
|---|---|
| <ul style="list-style-type: none"> Very small unidirectional microphone Suited to HI-FI sound and playback systems To design for high resistance to vibrations Capacitor inside: 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) | <ul style="list-style-type: none"> 超小型单向麦克风 适用于高保真音响和录音重播系统 高抗震设计 内部电容 10pF(DECT,PHS,PCN,PCS.etc.) 33pF(GSM,PDS.etc.) 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.) |
|---|---|



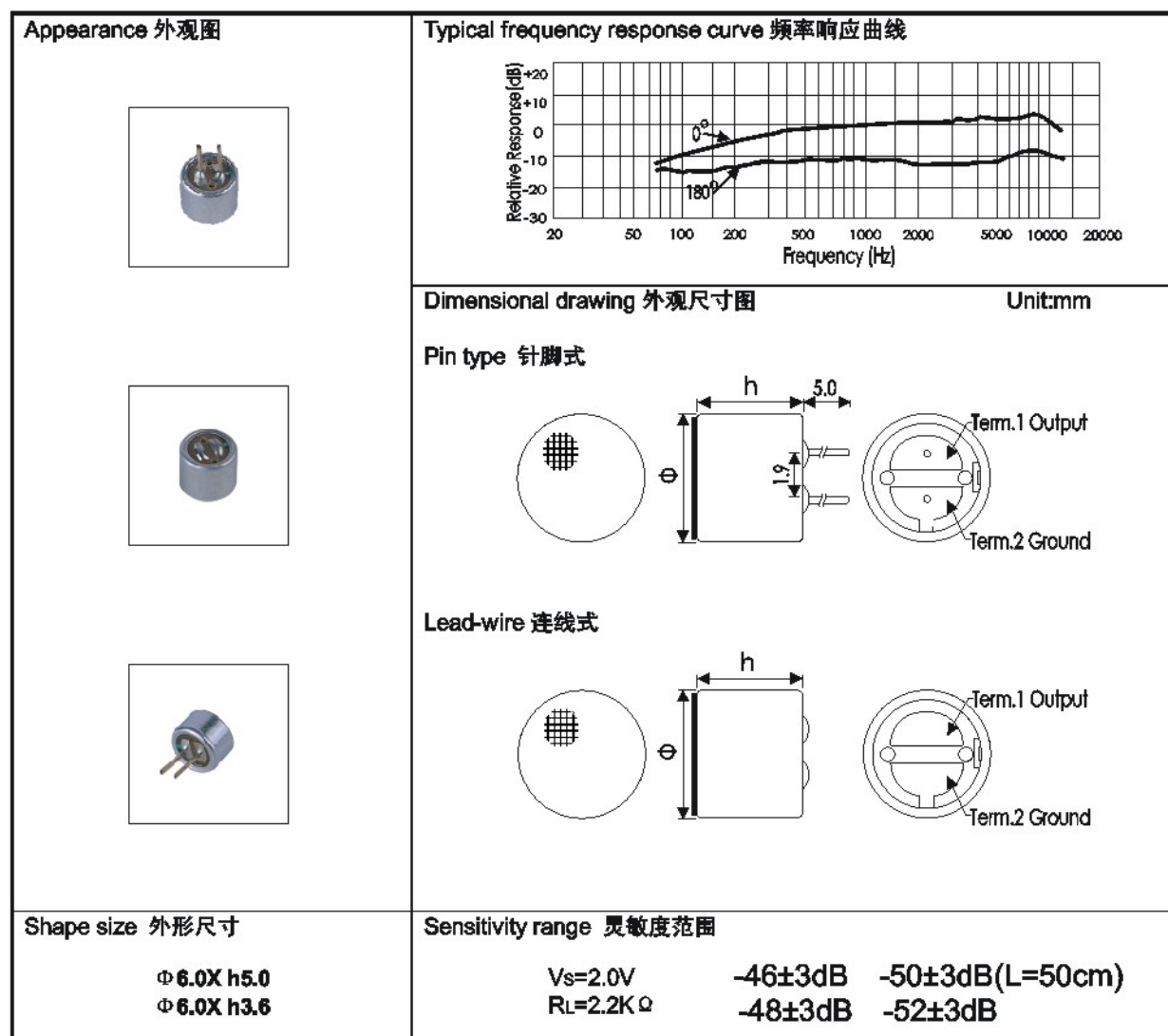
Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa,1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Uni-directional	方向性	单向
Frequency	100-12,000Hz	频率	100-12,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 55dB	信噪比	大于 55dB

Unidirectional Foil Electret Condenser Microphone

单向电容式麦克风

UF * 6036、6050

- | | |
|---|--|
| <ul style="list-style-type: none"> Small unidirectional microphone Suited to HI-FI sound and playback systems | <ul style="list-style-type: none"> 小型单向麦克风 适用于高保真音响和录音重放系统 |
|---|--|



Specification		规格	
Sensitivity	See above (0dB=1V/Pa, 1kHz)	灵敏度	参照上述 (0dB=1V/Pa,1kHz)
Impedance	Less than 2.2KΩ	阻抗	2.2KΩ 以下
Directivity	Uni-directional	方向性	单向
Frequency	100-12,000Hz	频率	100-12,000Hz
Max. operation voltage	10.0V	最大工作电压	10.0V
Standard Operation voltage	2.0V	标准工作电压	2.0V
Current consumption	Max. 0.5mA	电流消耗	最大 0.5mA
Sensitivity reduction	Within -3dB at 1.5V	灵敏度减低	1.5V-3dB 以内
S/N ratio	More than 55dB	信噪比	大于 55dB

Unidirectional Foil Electret Condenser Microphone

单向电容式麦克风

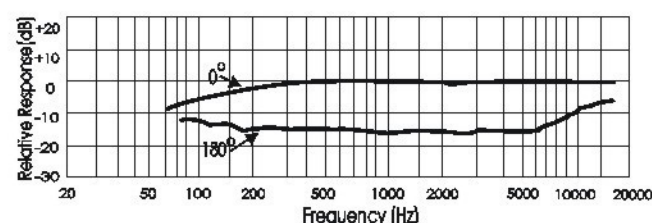
UF* 9745、9752、9767

- Small unidirectional microphone
- Sulted to HI-FI sound and playback systems
- 小型单向麦克风
- 适宜于高保真音响和录音重放系统

Appearance 外观图



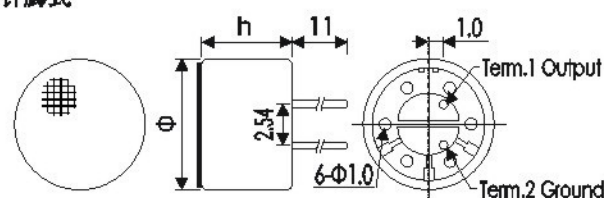
Typical frequency response curve 频率响应曲线



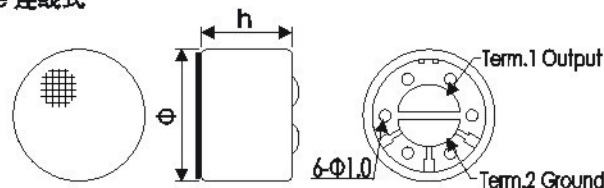
Dimensional drawing 外观尺寸图

Unit:mm

Pin type 针脚式



Lead-wire 连线式



Shape size 外形尺寸

Φ9.7X h6.7
Φ9.7X h4.5
Φ9.7X h5.2

Sensitivity range 灵敏度范围

Vs=1.5V
RL=680Ω
-46±3dB
-50±3dB(L=50cm)
-48±3dB
-52±3dB

Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	Less than 680Ω	灵敏度	680Ω 以下
Impedance	Uni-directional	阻抗	单向
Directivity	100-16,000Hz	方向性	100-16,000Hz
Frequency	10.0V	频率	10.0V
Max. operation voltage	1.5V	最大工作电压	1.5V
Standard Operation voltage	Max. 0.5mA	标准工作电压	最大 0.5mA
Current consumption	Within -3dB at 1.1V	电流消耗	1.1V-3dB 以内
Sensitivity reduction	More than 55dB	灵敏度减低	大于 55dB
S/N ratio		信噪比	

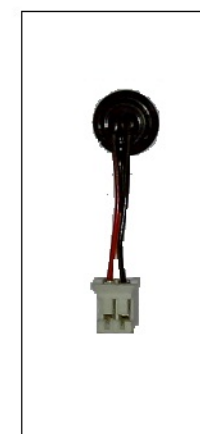
Omnidirectional Back Electret Condenser Waterproof Microphone

全向电容式防水麦克风

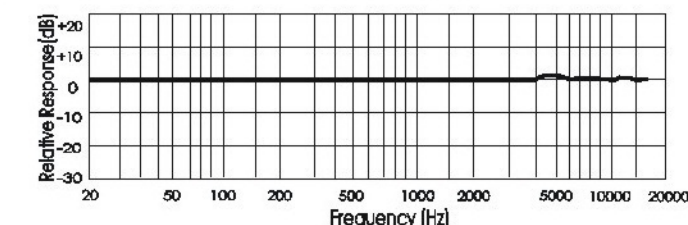
OB* 6022、6027、4010、4013、4015

- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inside:
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)
- Protection grade IP54-IP67
- 超小超薄型全向性麦克风
- 最适含有空间要求的产品
- 高抗震设计
- 内部电容
10pF(DECT,PHS,PCN,PCS.etc.)
33pF(GSM,PDS.etc.)
10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)
- 防水防尘等级 IP54-IP67

Appearance 外观图



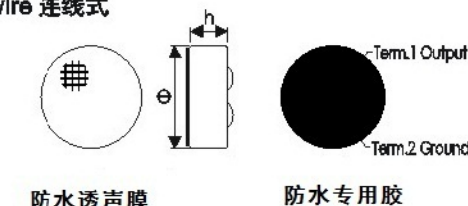
Typical frequency response curve 频率响应曲线



Dimensional drawing 外观尺寸图

Unit:mm

Lead-wire 连线式



Shape size 外形尺寸

Φ6.0X h2.2
Φ6.0X h2.7
Φ4.0X h1.5
Φ4.0X h1.3
Φ4.0Xh1.0

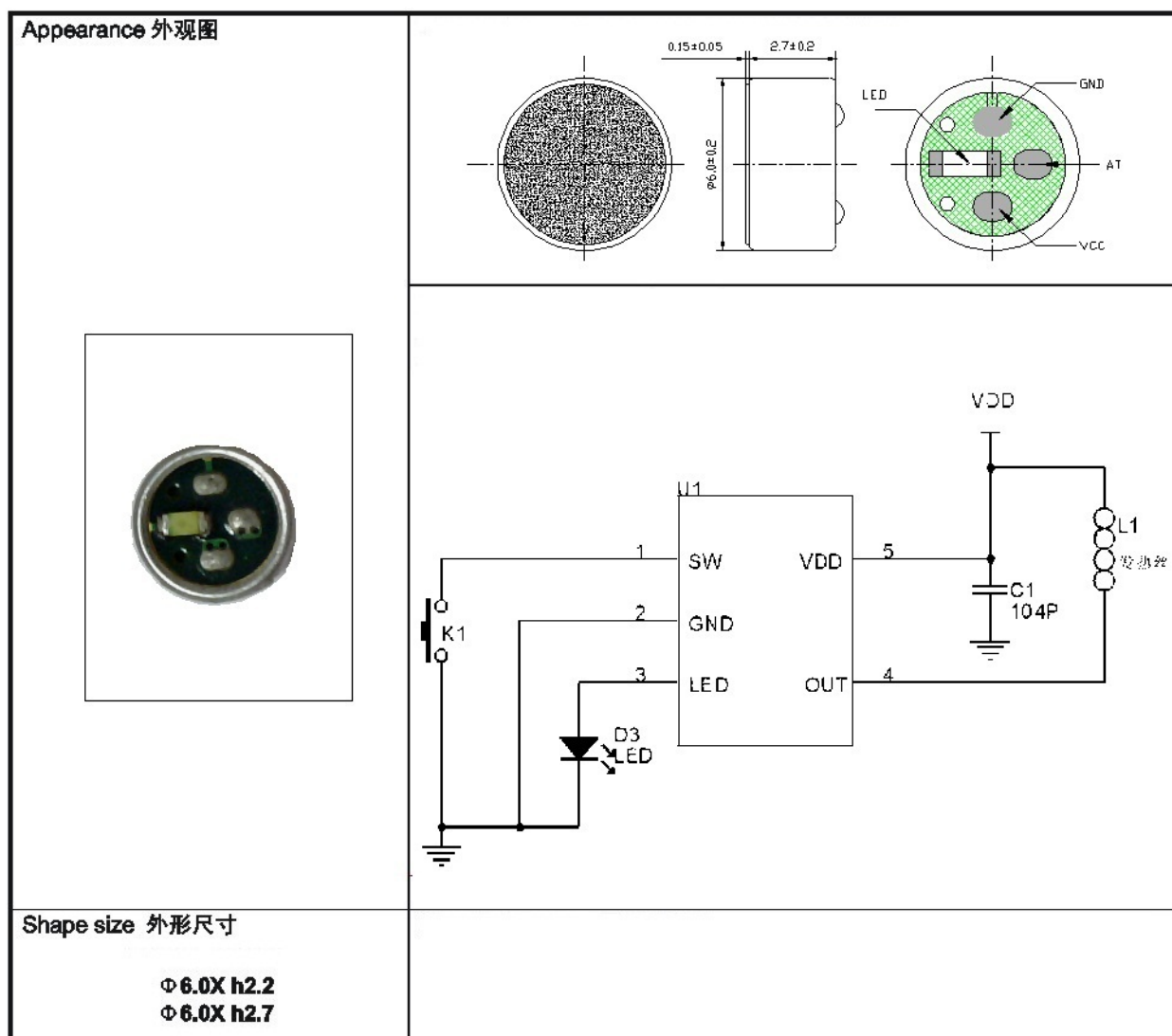
Sensitivity range 灵敏度范围

Vs=2.0V
RL=2.2KΩ
-38±3dB
-42±3dB
-44±3dB
-46±3dB

Specification	See above (0dB=1V/Pa, 1kHz)	规格	参照上述 (0dB=1V/Pa, 1kHz)
Sensitivity	Less than 2.2KΩ	灵敏度	2.2KΩ 以下
Impedance	Omni-directional	阻抗	全向
Directivity	20-16,000Hz	方向性	20-16,000Hz
Frequency	10.0V	频率	10.0V
Max. operation voltage	2.0V	最大工作电压	2.0V
Standard Operation voltage	Max. 0.5mA	标准工作电压	最大 0.5mA
Current consumption	Within -3dB at 1.5V	电流消耗	1.5V-3dB 以内
Sensitivity reduction	More than 58dB	灵敏度减低	大于 58dB
S/N ratio		信噪比	

E-smoke Microphone 电子烟专用麦克风

EB* 6027 6022



Symbol	Parameter	Unit	3.1	3.7	4.2	Unit
I_c	静态电流	μA			3	μA
V_{cc}	供电电压	V			6	V
I_{charge}	充电电流	mA		120		mA
R_{dism}	开关管阻值	Ω	50	85	100	Ω
f_{osc}	内部时钟频率	KHz		33		KHz

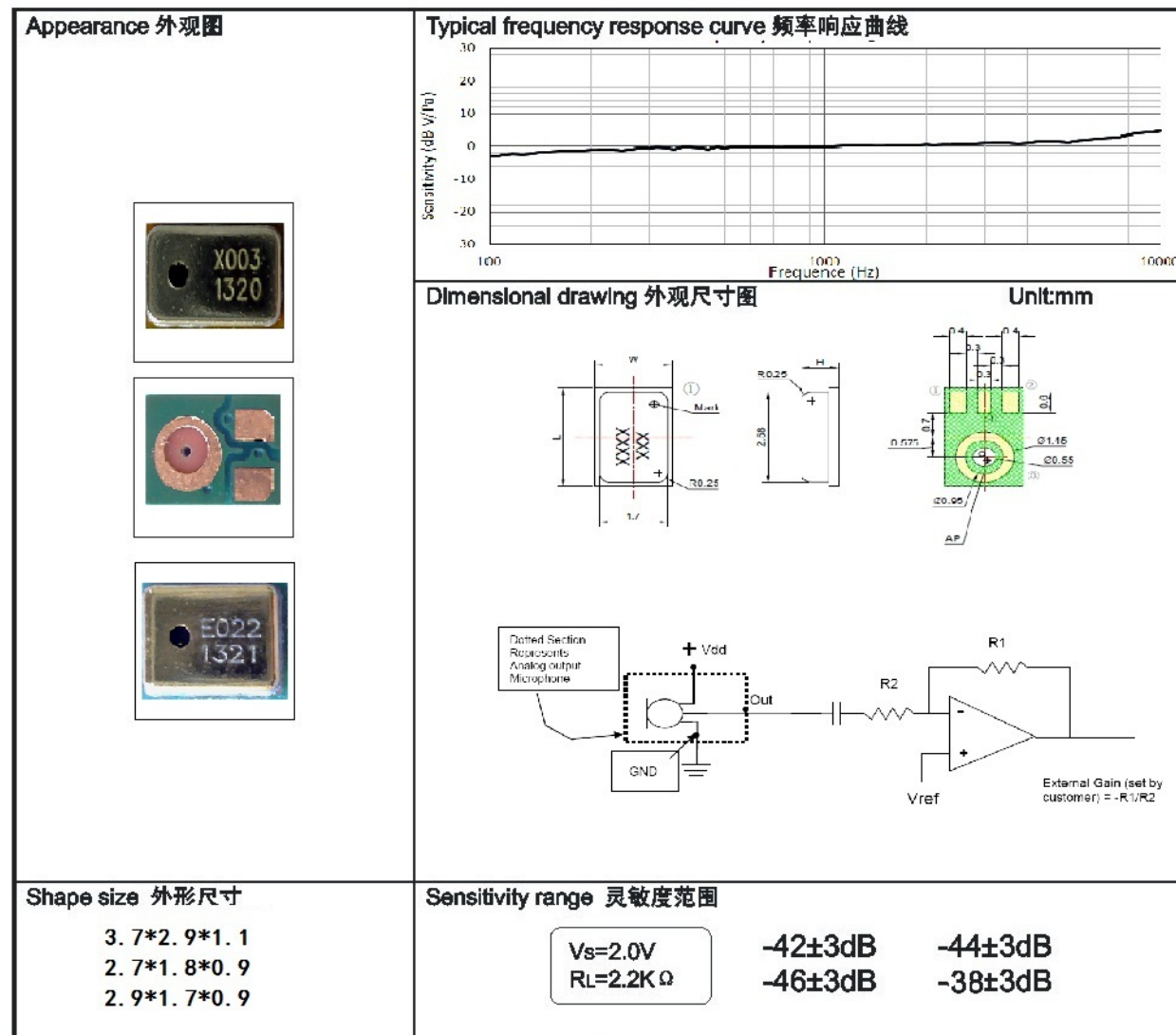
Symbol	Parameter	Unit	1.15	Unit
F_{sw}	开关频率	KHz	9	KHz
V_{thd}	电压检测阈值	V	3.1	V
R_{sc}	短路保护	Ω	1	Ω
R_{at}	AT 端对地的阻值	Ω	660	Ω

Omnidirectional MEMS Microphone

MEMS 麦克风

- Very small, thin type omni-directional microphone
- Most suited to products having limited space
- To design for high resistance to vibrations
- Capacitor Inslder:
 - 10pF(DECT,PHS,PCN,PCS.etc.)
 - 33pF(GSM,PDS.etc.)
 - 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)

- 超小超薄型全向性麦克风
- 最适合自动贴装工艺要求的产品
- 高抗震、高耐温设计
- 内部电容:
 - 10pF(DECT,PHS,PCN,PCS.etc.)
 - 33pF(GSM,PDS.etc.)
 - 10pF+33pF(DECT,PHS,PCN,GSM,PDS.etc.)



Specification

All data taken at 25°C, Relative Humidity 45-55% unless otherwise specified

Symbol	Parameter	Unit	1.15	Unit
F_{sw}	开关频率	KHz	9	KHz
V_{thd}	电压检测阈值	V	3.1	V
R_{sc}	短路保护	Ω	1	Ω
R_{at}	AT 端对地的阻值	Ω	660	Ω

Symbol	Parameter	Unit	1.15	Unit
F_{sw}	开关频率	KHz	9	KHz
V_{thd}	电压检测阈值	V	3.1	V
R_{sc}	短路保护	Ω	1	Ω
R_{at}	AT 端对地的阻值	Ω	660	Ω