



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MODEL: EM-6022
PRODUCT: Electret Condenser Microphone

TYPE: OMNIDIRECTIONAL SMD ELECTRIC CONDENSER MICROPHONE

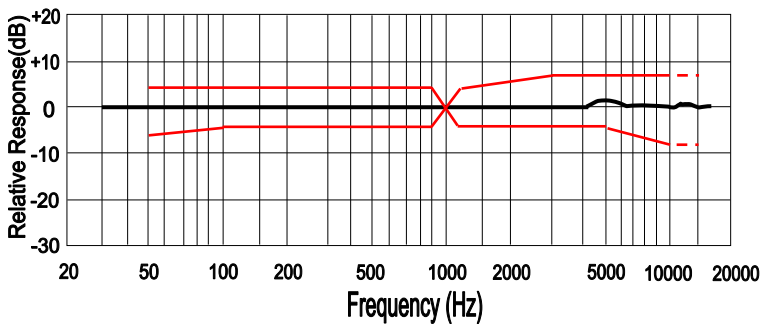
ELECTRICAL CHARACTERISTICS

Temperature = 20±2 °C Humidity=65±5%

parameter	symbol	condition	limits			unit
			min	center	max	
sensitivity	S	0dB=1V/Pa at 1kHz	-45	-42	-39	dB
output impedance	Z out	f=1kHz			2.2	KΩ
current consumption	I _{bss}	V _{cc} =2.0V, RL=2.2KΩ			300	μA
signal to noise ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB
decreasing voltage	ΔS	V _{cc} =3.0V to 2.0V			-3	dB
operating voltage			1.4		5.0	V
maximum input S.P.L					110	dB
dimension		∅6.0 x 2.2mm				

TYPICAL FREQUENCY RESPONSE CURVE

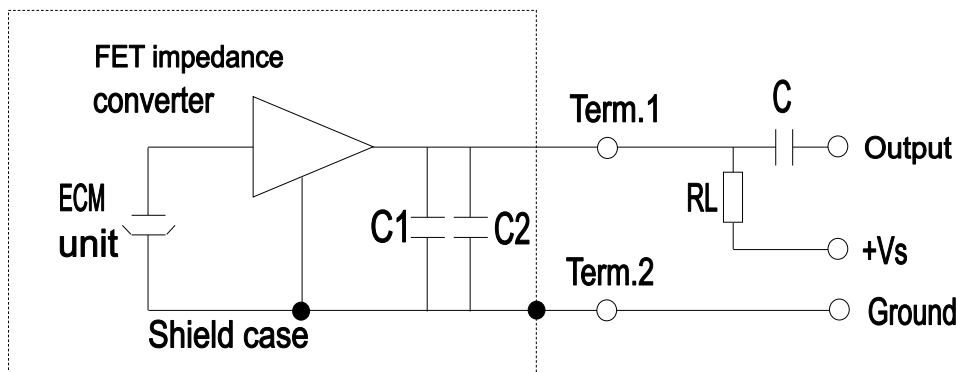
FREQUENCY RESPONSE



MICROPHONE RESPONSE TOLERANCE WINDOW

Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
50	-6	+3
100	-3	+3
800	-3	+3
1000	0	0
1200	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

MEASUREMENT CIRCUIT



RL = 2.2KΩ
Vs = 2.0V
C = 1μF
C1 = 10PF
C2 = 33PF



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Soberton Inc.

TEMPERATURE CONDITIONS

storage temperature range -40°C ~ +75°C

operation temperature range -20°C ~ +60°C

Note: Store in electronic warehouse.

TERMINAL MECHANICAL STRENGTH

Terminal should be no interference in operation after pulled the terminal with 1kg for 1 minute.

RELIABILITY TEST

After each of following tests, the sensitivity of the microphone should be within $\pm 3\text{dB}$ of initial sensitivity after 3 hours of conditioning at 20°C .

vibration test

frequency 10hz ~ 55hz

amplitude 1.52mm

change of frequency 1 octave/min

2 hours in each of axis

dry heat/cold +70°C/-20°C for 72 hours

damp heat 90% ~ 95%RH,+40°C for 240 hours

temperature cycles -20°C ↔ +25°C ↔ +70°C ↔ -20°C

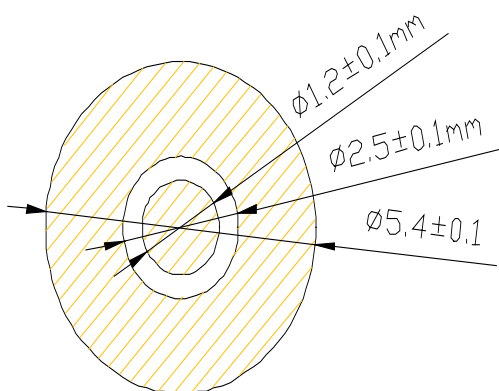
(2h) (1h) (2h) (1h) (2h) (2h) x 10 cycles

packing drop test

height 1 m

procedure 5 times from each of axis

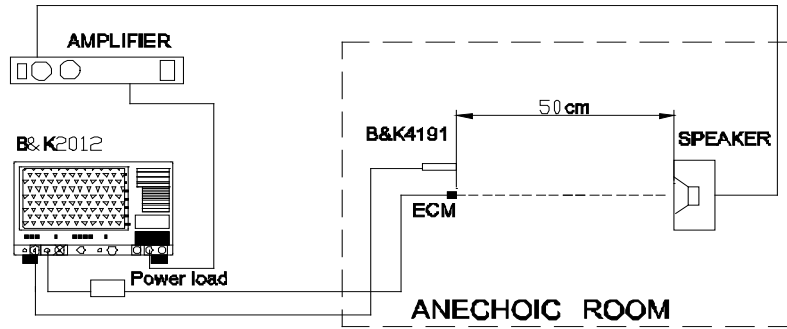
RECOMMEND ASSEMBLY WELD PLATE





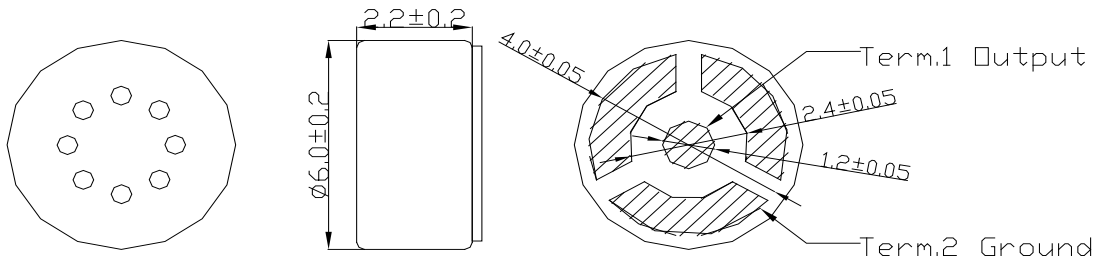
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TEST SETUP DRAWING

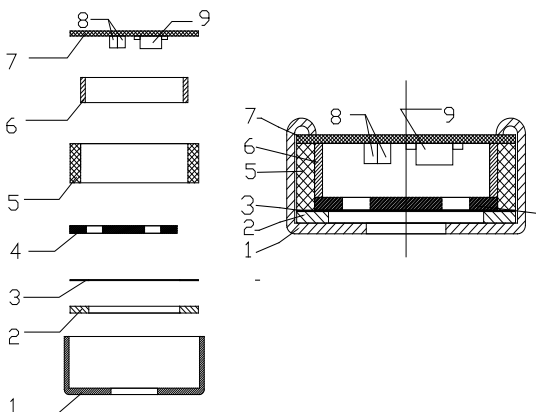


PRODUCT EXTERNAL VIEW AND DIMENSION

Unit : mm



EXPLODED DRAWING AND MATERIAL TABLE



	Name	Material	Quantity	Remark
1	Case	Copper	1	
2	Polarized diaphragm		1	
3	Spacer		1	
4	Electret back		1	
5	Housing chamber		1	
6	Copper ring		1	
7	P.C.B		1	FR-4
8	Chip capacitor	10+33PF	1	0402
9	FET		2	



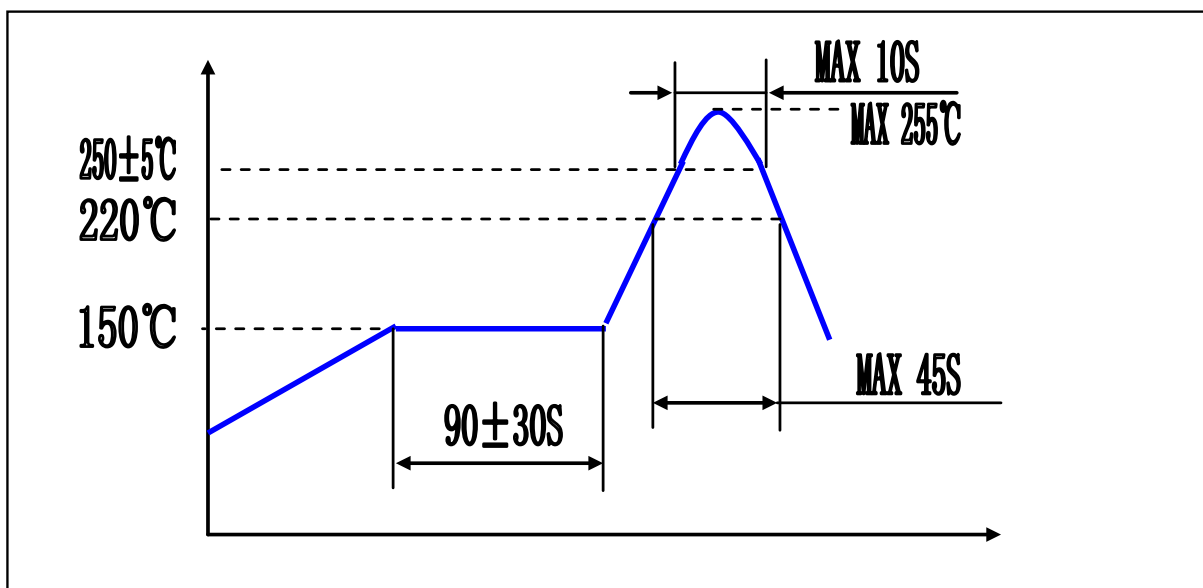
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REFLOW PROCESS CONDITION

The soldering profile depends on various parameters necessitating a set up for each application.

The data here is given only for guidance on solder re-flow. There are four zones:

preheat zone	This zone brings the temperature at a controlled rate, typically 1~2.5°C/s.
equilibrium zone	This zone brings the board to be a uniform temperature and also activates the flux. The duration in this zone (typically 2~3 minutes) will need to be adjusted to optimize the out gassing of the flux.
re-flow zone	The peak temperature should be high enough to achieve good wetting but not so high as to cause component discoloration or damage (255°C for maximum 10 seconds). Excessive soldering time can lead to inter-metallic growth which can result in a brittle joint.
cooling zone	The cooling rate should be fast, to keep the solder grains small which will give a longer lasting joint. Typically will be 2~5°C/s. Sensitivity change should be within $\pm 3\text{dB}$ after re-flow process and at room temperature for 30 minutes at least.





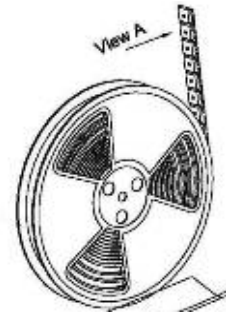
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PACKING

PACKING DIMENSION
DELIVERY PLATE: 600PCS
MID PACKET : 1800PCS
PAPER CASE : 14400PCS

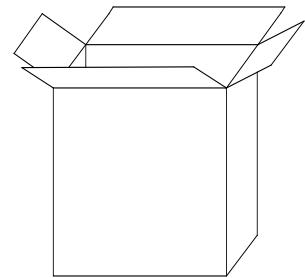
WEIGHT & QUANTITY
1 PC=0.25g
NET WEIGHT: 6.6kg
GROSS WEIGHT: 7.5kg

600PCS



X3

1800PCS



X8

14400PCS

