



MODEL: EM6027LW-42C
PRODUCT: Omni Directional Back Electret Condenser Microphone
EDITION: A/2017

TYPE: OMNI DIRECTIONAL BACK ELECTRET CONDENSER MICROPHONE

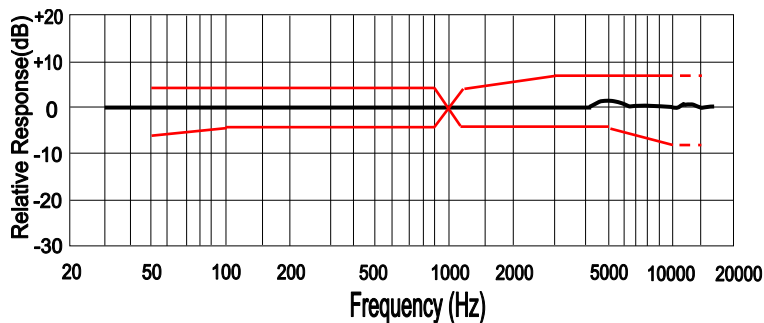
ELECTRICAL CHARACTERISTICS

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 _{DC}	V _{CC} = 2.0V, R _L = 2.2KΩ			500	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			1.0		10	V
maximum input S.P.L					115	dB
dimension		∅6.0 x 2.7mm (LW 25)				

TYPICAL FREQUENCY RESPONSE CURVE

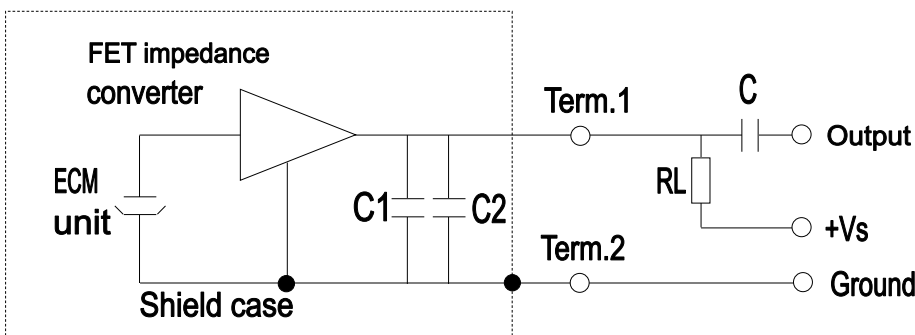
FREQUENCY RESPONSE



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
C1 = 10pF
C2 = 33pF
C = 1μF



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TEMPERATURE CONDITIONS

storage temperature range -40°C ~ +85°C

operation temperature range -40°C ~ +85°C

Note: Store in electronic warehouse.

RELIABILITY TEST

After each of the 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

high temperature test +85°C for 240 hours

low temperature test -40°C for 240 hours

humidity test 90% ~ 95%RH, +60°C for 240 hours

thermal shocking test -40°C, 30 minutes \longleftrightarrow +80°C, 30 minutes, repeated 32 cycles \rightarrow room temperature, 3 hours

temperature cycles -40°C \longleftrightarrow +20°C \longleftrightarrow +85°C \longleftrightarrow +20°C \longleftrightarrow -40°C
 (2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles

packing drop test

height 1.5m

procedure 5 times from each of axis

electrostatic discharge Tested to IEC61000-4-2 level 3

contact discharge The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF & 330Ω.

air discharge The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF & 330Ω

IP level **IP67**

SOLDERING CONDITION

We suggest using an anti-static welding machine which can control soldering temperature automatically.

Soldering temperature should be controlled at under 320 °C and soldering time for each terminal should be 1~2 seconds.

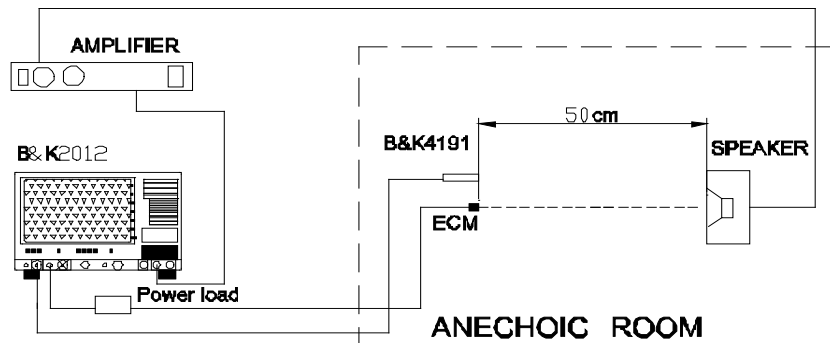
Microphone should be fixed on the metal block (heat sink)and the heat sink shall contact with MIC tightly.

Microphone may easily be damaged by the static electricity. The countermeasure for eliminating the static electricity shall be by grounding both the worktable and the operator.



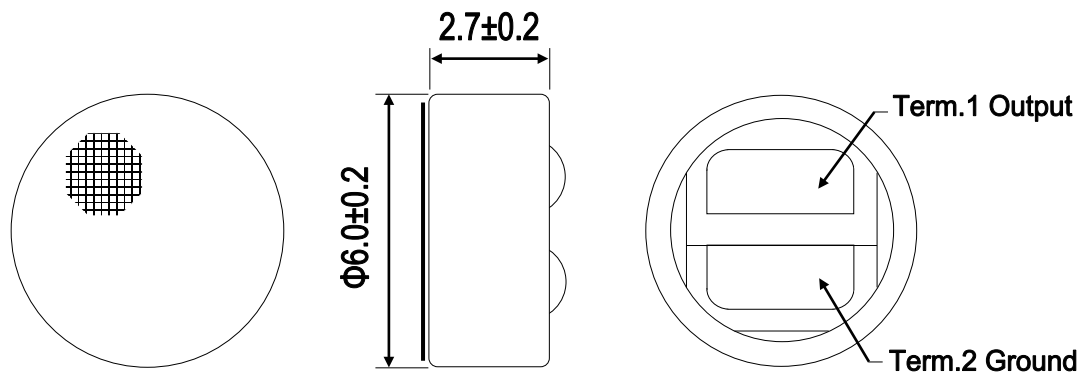
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MEASUREMENT SETUP DRAWING

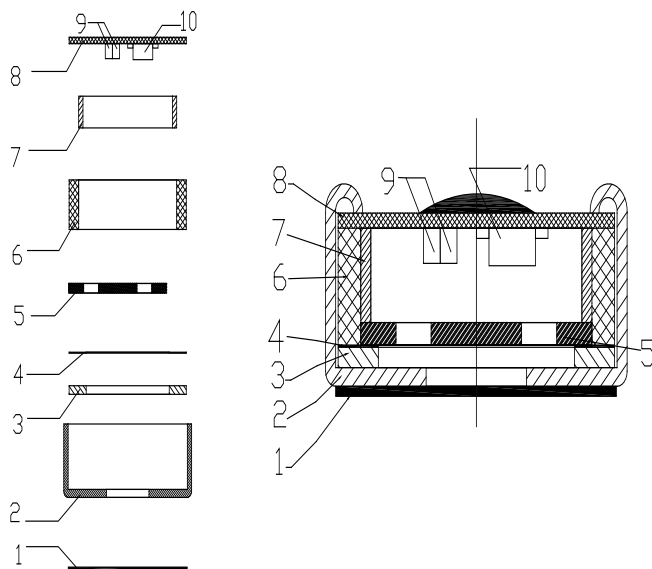


PRODUCT EXTERNAL VIEW AND DIMENSION

Unit : mm



EXPLODED DRAWING AND MATERIAL TABLE



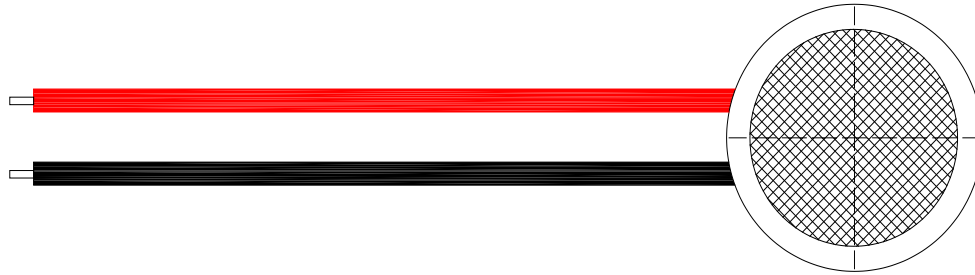
	Name	Material	Quantity
1	Felt	Non-weave cloth	1
2	Case	Al-Mg alloy	1
3	Polarized diaphragm		1
4	Spacer		1
5	Electret back		1
6	Chamber		1
7	Copper ring		1
8	PCB	FR-4	1
9	Chip capacitor	10+33pF	2
10	FET		1



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ACCESSORY DRAWING

TOP VIEW



SIDE VIEW



BOTTOM VIEW

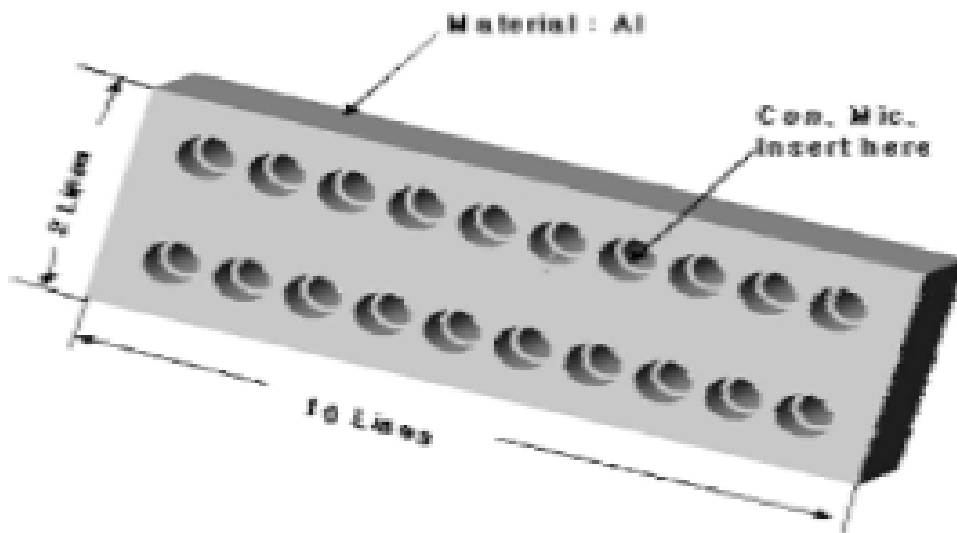




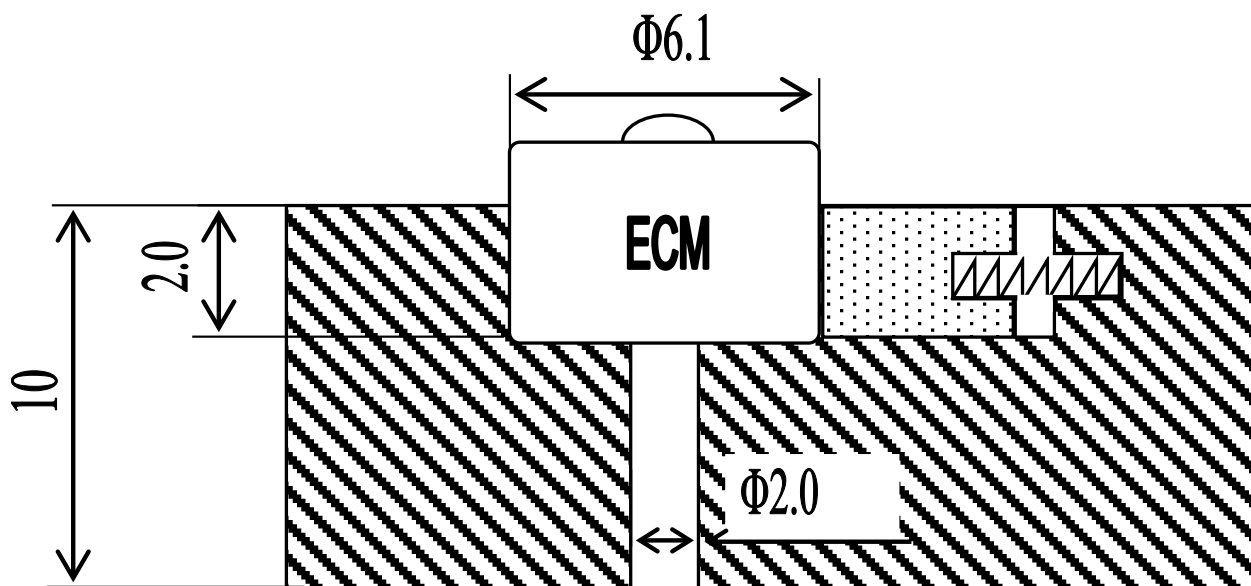
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HEAT SINK

SHAPE OF HEAT SINK



SHAPE OF HOLE AT FIXED PART





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PACKING

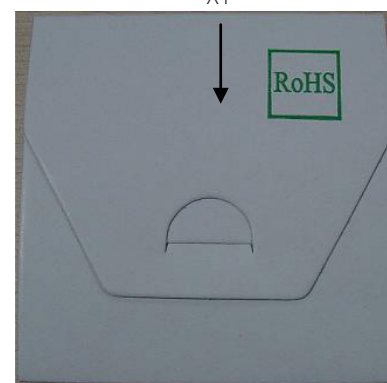
DIMENSION:(LENGTH*WIDTH *HEIGHT)
ANTI-STATIC BAG : 100mm*100mm*2mm
SMALL BOX : 100mm*100mm*10mm
MIDDLE BOX : 205mm*105mm*50mm
CARTON SIZE : 550mm*230mm*235mm

QUANTITY AND WEIGHT
100PCS/SMALL BOX
1000PCS/MID BOX
20000PCS/CARTON
1PC=0.2g
NET WEIGHT: 4.0kg
GROSS WEIGHT: 8.0kg



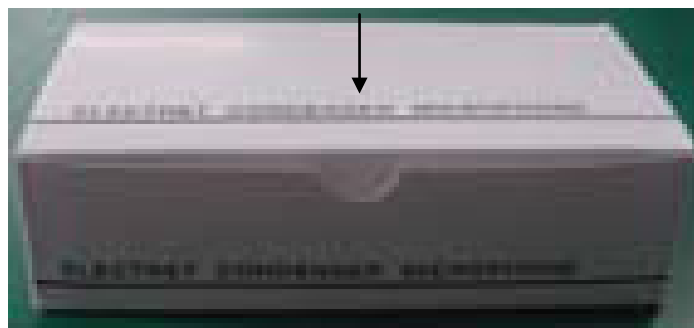
X1

100PCS →



X10

1000PCS →



X20

20000PCS →

