DIGISOUND®

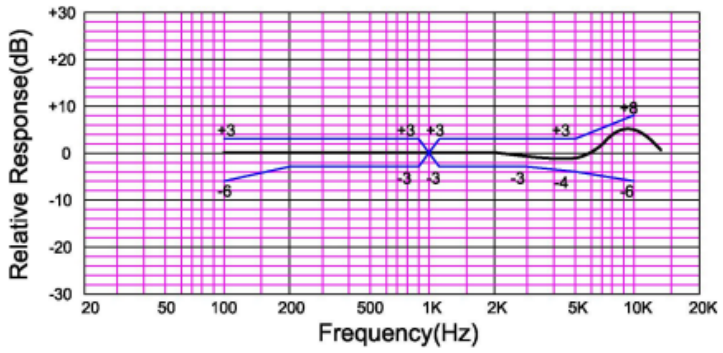
Type : Omni-directional Electret Condenser Microphone (Back plate)

1.Electrical Characteristics: (Test Condition:2.0V 2.2KΩ,Temp=20±2℃,humidity=65±5%)

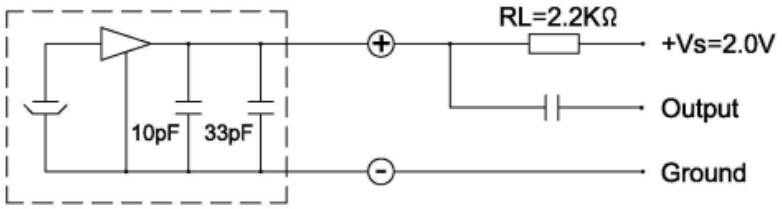
NO	Parameter	Symbol	Condition	Limits			Unit
				Min.	Center.	Max.	
1	Sensitivity	S	f=1KHZ,S.P.L=1Pa 0dB=1V/Pa,L=50cm	-46	-44	-42	dB
2	Output impedance	Z_{OUT}	f=1KHZ			2.2	KΩ
3	Current Consumption	I_{DSS}	V_S=2.0V,R_L=2.2KΩ			500	uA
4	Signal to Noise Ratio	S/N	f=1KHZ,S.P.L=1Pa (A-weighted curve)	55			dB
5	Decreasing Voltage	△S	V_S=2.0V to 1.5V			-3	dB
6	Operating voltage range	V_S		1.0		10	V
7	Maximum input S.P.L	S	THD<3%			110	dB

2.Frequency Response and Schematic Diagram:

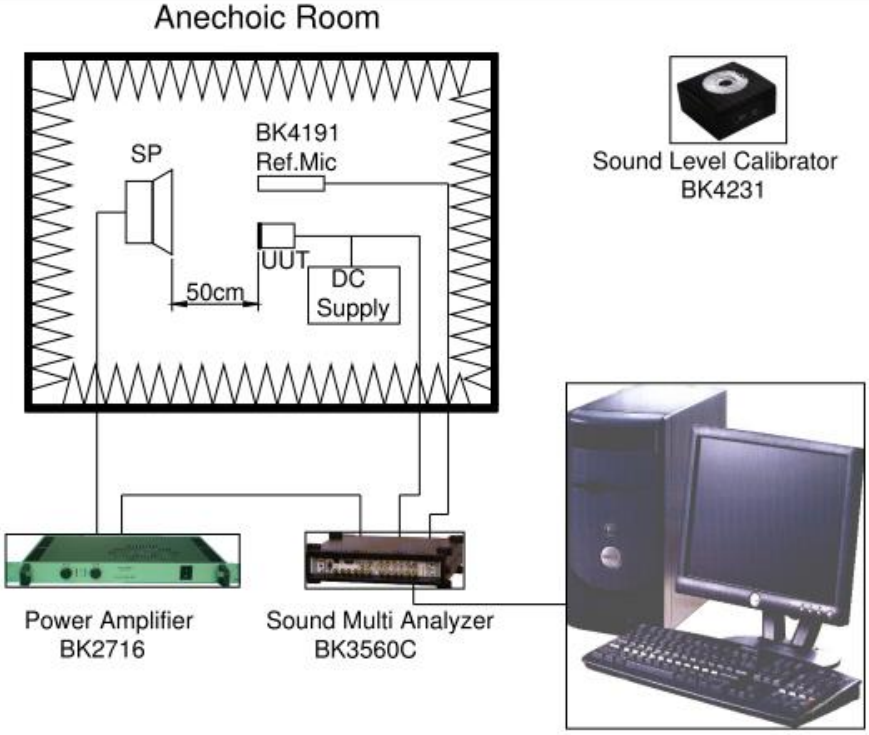
2.1 Typical Frequency Response Curve:



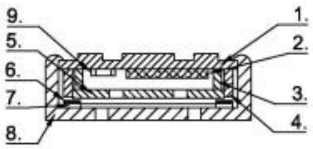
2.2 Schematic Diagram:



3.Measurement System:



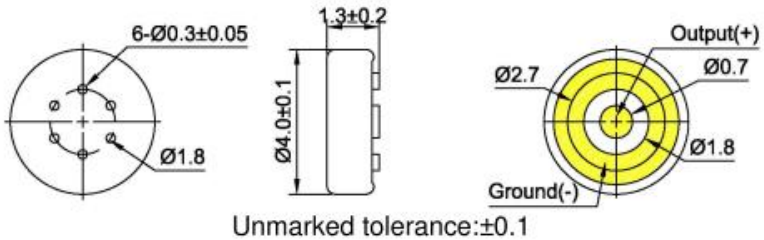
4. Structure:



Item NO.	Part Name	Qty
1.	P.C.B	1
2.	FET	1
3.	Metal Ring	1
4.	Plastic Ring	1
5.	Back Plate	1
6.	Spacer	1
7.	Diaphragm	1
8.	Case	1
9.	Capacitor	2

5. Mechanical Characteristics:

5.1 Dimensions(Unit:mm):



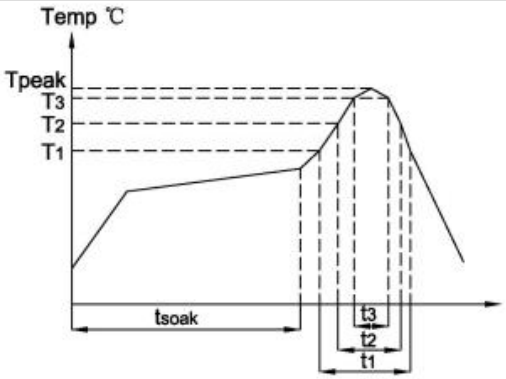
Unmarked tolerance:±0.1

5.2 weight:less than 0.5g.

6.Applications:

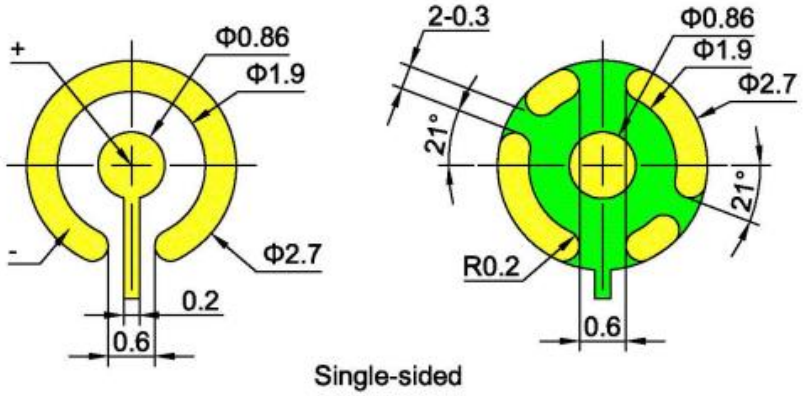
6.1 Recommend Reflow Profile

Parameter	Parameter	Specification
Average temperature gradient in prehenting		2.5℃/s
Soak time	tsoak	2~3minute
Time above 217℃	t1	Max 60s
Time above 230℃	t2	Max 50s
Time above 250℃	t3	Max 10s
Peak temperature inreflow	Tpeak	255^{+5}_{0}℃
Timperature gradient in cooling		Max-5℃/s

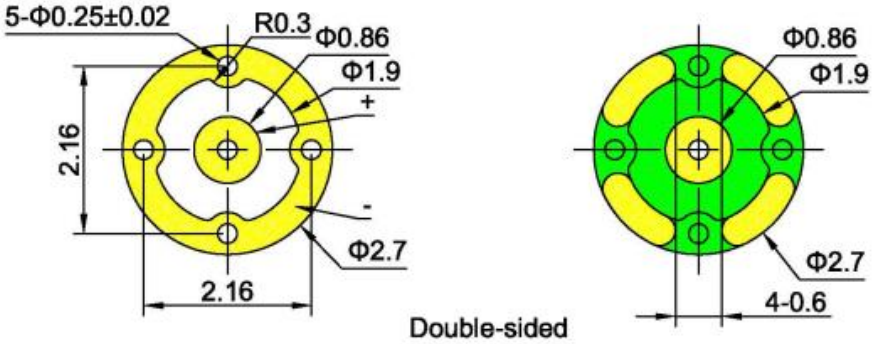


The number of reflow shall be max 2times.
After 2x reflow, the sensitivity shall be -44±4dB

6.2 Land Pattern



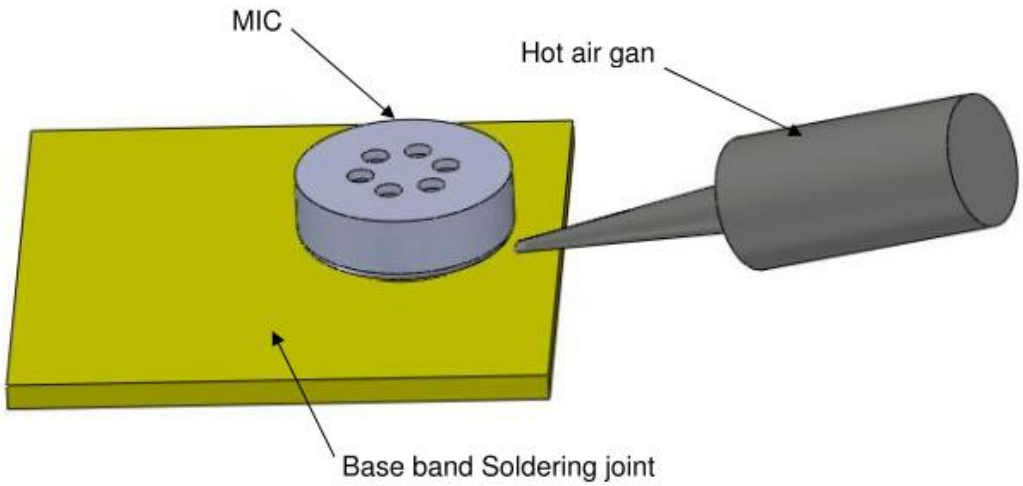
Single-sided



Double-sided

6.3 Hot air gun using instruction

a) Hot air gun is used to separate the reflowable MIC from the base board.
b) Max. temperature of the nozzle should be less than 400℃; Actual temperature of the hot air while blowing should be less than 270℃.
c) Distance between nozzle's tip and reflowable MIC should be within 2mm.
d) Operation time: Less than 10 seconds.
e) Hot air's entry to the sound hole of the reflowable MIC should be prohibited.
f) Aim the nozzle's tip to the joint of the soldering joint of the reflowable MIC and the base board.
g) Anti-static measure should be taken for reflowable MIC is easy to be destroyed.



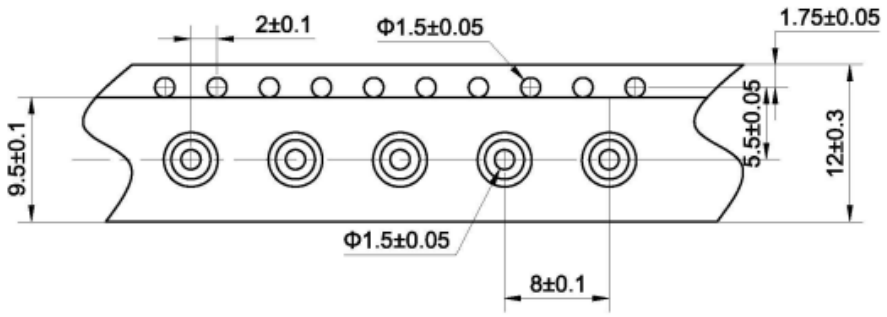
7.Environmental Condition :

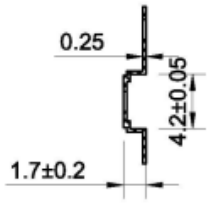
7.1	Storage condition	-40℃～+85℃ R.H.less than 90%
7.2	Operation condition	-20℃～+70℃ R.H.less than 90%
7.3	Arbitration condition	Temperature :20℃±1℃
		Relative Humidity :60%～67%
		Air Pressure :86～106Kpa

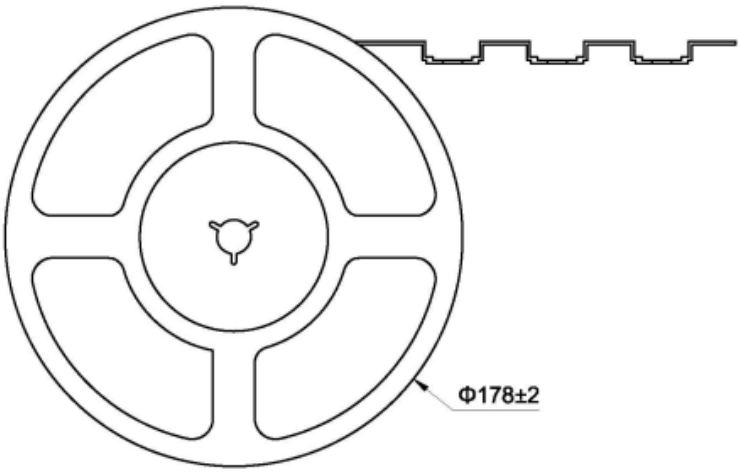
8. Reliability Test:

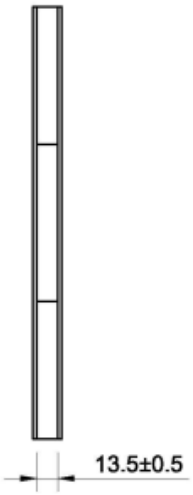
8.1 Vibration Test	To be no interference in operation after vibrations,10Hz to 55Hz for 1 minute full amplitude 1.52 mm,for 2 hours at three axises in state of standard packing, sensitivity to be with ±3dB from initial sensitivity.
8.2 Drop Test	To be no interference in operation after dropped to concrete floor each one time from 1 meter height at three directions in state of outer packing, sensitivity to be with ±3dB from initial sensitivity.
8.3 Temperature Test	After exposure at +70℃ for 200 hours,sensitivity to be with ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at 20℃,R.H 50%)
	After exposure at -25℃ for 200 hours,sensitivity to be with ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at 20℃,R.H 50%)
8.4 Humidity Test	After exposure at +40℃ and 90%~95% relative humidity for 200 hours,sensitivity to be with ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at 20℃,R.H 50%)
8.5 Temperature Cycle Test	After exposure at -25℃ for 30 minutes,at 20℃ for 10 minutes,at +70℃ for 30 minutes,at 20℃ for 10 minutes,5 cycles,sensitivity to be with ±3dB from initial sensitivity. (The measurement to be done after 2 hours of conditioning at 20℃,R.H 50%)
8.6ESD (Electrostatic Discharge)Test	According to the third item of the standard of IEC 61000 1.Contact discharge Charge 6000V DC to the capacitor with 150Pf,and discharge the output of the MIC ten times through the resistance of 330Ω, then check and test it. 2.Air discharge Charge 8000V DC to the capacitor with 150pF,and discharge the sound hole of the MIC ten times through the resistance of 330Ω, then check and test it.

9. Packaging:









Package	Dimension(mm)	Qty(pcs)
Reel	Φ178×13.5	1000
Middle Box	197×187×80	5000
Outer Box	396×275×295	30000

Revision Table

Index Nr.	Date Reason - Procedure Change description	Drawing Date	implementation LS-Nr.: Date	Comments