soberton inc.

Acoustic Product Specification

Product Number: GT-111PS-1



Release | Revision: C/2018

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This document contains the technical specifications for the electromagnetic buzzer.

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Specifications				
Item	Unit	Specification	Condition	
Rated Frequency	Hz	2048	Vo-p= ½ duty, square wave	
Rated Voltage	Vo-p	1.5	Vo-p	
Operating Voltage	Vo-p	1.0 ~ 3.0	↓ L L ov	
Mean Current	mA	15 Max.	At rated voltage	
Sound Pressure Level	dB	70	At 10cm at rated voltage	
Coil Resistance	Ω	50±7		
Operating Temp	°C	-20 ~ +60		
Storage Temp	°C	-20 ~ +70		
Dimension	mm	φ 12.0×H5.4	See attached drawing	
Weight	gram	2.0		
Housing Material		PPO		
Terminal		PIN Type (Plating Sn)	See attached drawing	
Environmental Protection Regulation		RoHS		

Test condition

Drop Test

Temperature: 25±2 °C Related humidity: 65±5% Air pressure: 86-106KPa

Mechanical Characteristics			
Item	Test condition	Evaluation standard	
Solderability	Lead terminals are immersed in the solder bath at+250 \pm 5°C for 3 \pm 1 seconds.	90% min. lead terminals shall be wet with solder. No interference in operation.	
Soldering Heat Resistance	Lead terminals are immersed in the soldering bath at+250±5°C for ±2 seconds.		
Terminal Mechanical Strength	The force of 9.8N is applied to each terminal in axial direction for 10 seconds.	No damage and cutting off.	
Vibration	The part shall be subjected to a vibration cycle of 10Hz to 55Hz to 10Hz in a period of 1 minute.	After the test, the part shall meet specifications without	

Page 4 Frequency Response Curve

Page 5 Dimensions

Page 6 Packing Total peak amplitude shall be 1.52mm(9.3G). The vibration test shall consist of 2 hours per axis in each three axes(X,Y,Z). Total 6 hours.

The part is dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X,Y,Z). A total of 9 times. any damage in appearance and performance except SPL. The SPL should be in ±10dBA compared with initial one.

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Environment Test			
Item	Test condition	Evaluation standard	
High Temp. Test	The part is placed in a chamber at +70°C for 96 hours.	After the test, the part shall meet specifications without any	
Low Temp. Test	The part is placed in a chamber at -30°C for 96 hours.	appearance and performance except SPL. After 4 hours at +25°C, the SPL should be in ±10dBA compared with initial one.	
Thermal Shock	The part shall be subjected to 5 cycles. Each cycle shall consist of: +70°C -30°C 30 min 30 min		

Temp./Humidity Cycle

The part will be subjected to 5 cycles. One cycle shall be 24 hours and consist of:

•



Reliability Test

Item	Test condition	Evaluation standard
Operating Life Test	Ordinary Temperature The part shall be subjected to 96 hours of continuous operation at +25±10°C. High Temperature The part shall be subjected to 72 hours of continuous operation at +70°C at 1.5 V, 2048 Hz applied.	After the test, the part shall meet specifications without any degradation in appearance and performance except SPL. After 4 hours at +25°C, the SPL should be in ±10dBA compared with
	Low Temperature The part shall be subjected to 72 hours of continuous	initial one.

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Standard test condition:

a) Temperature: +5~+35°C

2048 Hz applied.

b) Humidity: 45~85%

c) Pressure: 86~106KPa



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Recommended Temperature Profile for Reflow Oven

Recommendable wave soldering condition is as follows:

Note 1: It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.

Note 2: Peak reflow temperature of 250°C maximum of 10 seconds, with a maximum duration of 40-60 seconds between 220°C and 250°C

* Wave Soldering profile of lead-free



Measurement Test Circuit



Inspection Fixture

S.P.L Measuring Circuit Input Signal : 1.5 Vo-p, square wave, ½ duty, 2048Hz



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Mic: RION S.P.L meter UC30 or equivalent

S.G: Hewlett Packard 33120A Function Generator or equivalent

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Tolerance: ±0.5 (unit: mm)



Dimensions







P.C.B Layout



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No.	Part Name	Material	Quantity
1	Cover	PPO	1
2	Diaphragm	Iron	1
3	Base	PPO	1
4	Magnet	NdFeB	1
5	Coil	Copper	1
6	Core	Iron	1
7	PCB	Epoxy Glass Fiber Cloth + Copper	1
8	PIN	Copper	2

Page 4	4	Magnet	NdFe
Frequency Response Curve	5	Coil	Сорр
Page 5	6	Core	Iron
Page 6	7	РСВ	Epoxy
Packing	8	PIN	Сорр

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Packing Box	L x W x H (mm)	Pieces
Foam Tray	240 x 160 x 30	1 x 100PCS = 100PCS
Plastic Bag		10 × 100PCS = 1,000PCS
Carton Box	520 x 420 x 280	5 x 1,000PCS = 5,000PCS

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