



soberton inc.

MB MECHANICAL BUZZER

Acoustic Product Specification

Product Number: MB-2317



Release | Revision: B/2018

CONTENTS

This document contains the technical specifications for the mechanical buzzer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Measuring Method (Speaker Mode)

Page 4

Dimensions

Page 5

Packing

Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12	
Operating Voltage	VDC	8 ~15	
Mean Current	mA	25 Max.	At rated voltage
Sound Pressure Level	dB	75	At 20cm at rated voltage
Rated Frequency	Hz	400 ±100	
Operating Temp	°C	-20 ~ +70	
Storage Temp	°C	-20 ~ +60	
Dimension	mm	23.0 x 17.0 x H15.0	See drawing
Weight	gram	8.0	
Material		ABS	
Terminal		Wire type	120mm (UL1007/AWG26#)
Environmental Protection Regulation		RoHS	

Test condition:

Temperature: +25±2 °C Related humidity: 65±5% Air Pressure: 86~106KPa

Mechanical Characteristics

Item	Test condition	Evaluation standard
Solderability	Stripped wire of lead wires are immersed in rosin for 5 seconds and then immersed in the solder bath at +250±5°C for 3 ±0.5 seconds.	90% min. lead terminals shall be wet with solder (Except the edge of terminal)
Lead Wire Pull Strength	The pull force shall be applied to double lead wire: Horizontal: 3.0N(0.306kg) for 30 seconds. Vertical: 2.0N(0.204kg) for 30 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. 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). A total of 6 hours	The value of oscillation frequency current consumption should be in ±10% compared with initial ones. The SPL should be in ±10dB compared with initial one.
Drop Test	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	



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Page 2

Environment Test

Reliability Test

Page 3

Measuring Method (Speaker Mode)

Page 4

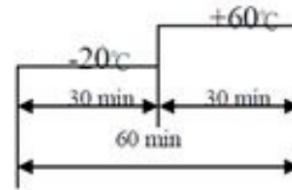
Dimensions

Page 5

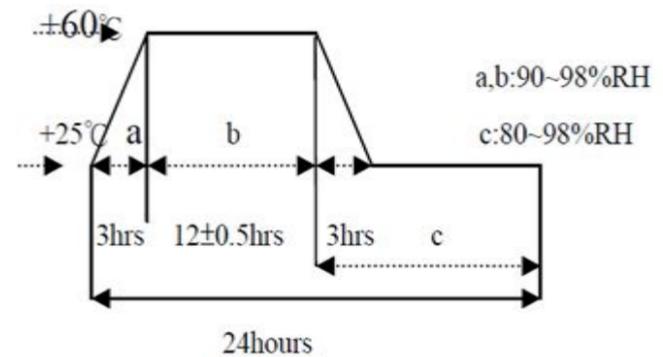
Packing

Environment Test

Item	Test condition	Evaluation standard
High temp. test	The part is placed in a chamber at +60°C for 96 hours	Being placed for 4 hours at +25°C, buzzer shall be measured.
Low temp. test	The part is placed in a chamber at -20°C for 96 hours	The value of oscillation, frequency / current consumption should be in ±10% compared with initial ones.
Thermal shock	The part shall be subjected to 10 cycles. Each cycle shall consist of:	The SPL should be in ±10dB compared with initial one.



Temp cycle test
The part shall be subjected to 10 cycles.
Each cycle shall 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.	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 initial one.
	High temperature The part shall be subjected to 72 hours of continuous operation at +60°C with 12.0V applied.	
	Low temperature The part shall be subjected to 72 hours of continuous operation at -10°C with 12.0V applied.	
	High and Low Voltage Applying 8.0 voltage and 15.0 voltage, available time 24 hours each.	

Standard test condition:

- a) Temperature: +5~+35°C
- b) Humidity: 45~85%
- c) Pressure: 86~106KPa



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This document contains the technical specifications for the mechanical buzzer.

Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Measuring Method (Speaker Mode)

Page 4

Dimensions

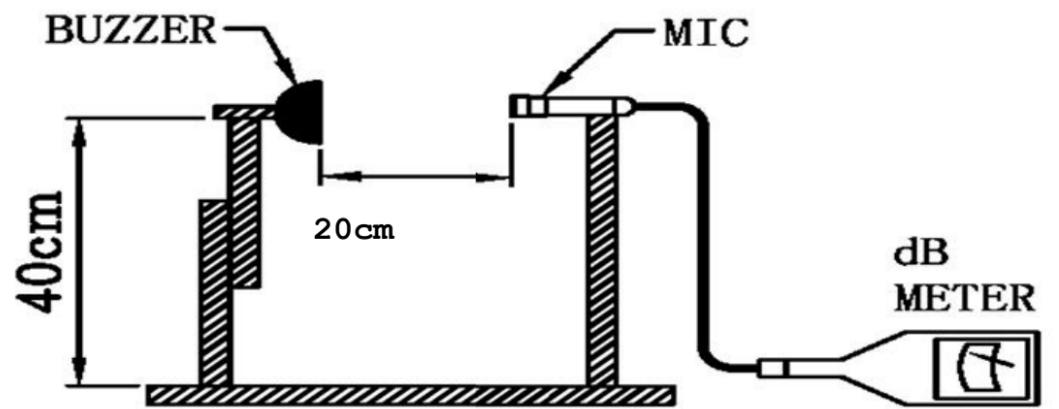
Page 5

Packing

Measuring Method (Speaker Mode)

S.P.L Measuring Circuit

Input Signal: 12 VDC



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



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Page 1

Specifications

Mechanical Characteristics

Page 2

Environment Test

Reliability Test

Page 3

Measuring Method (Speaker Mode)

Page 4

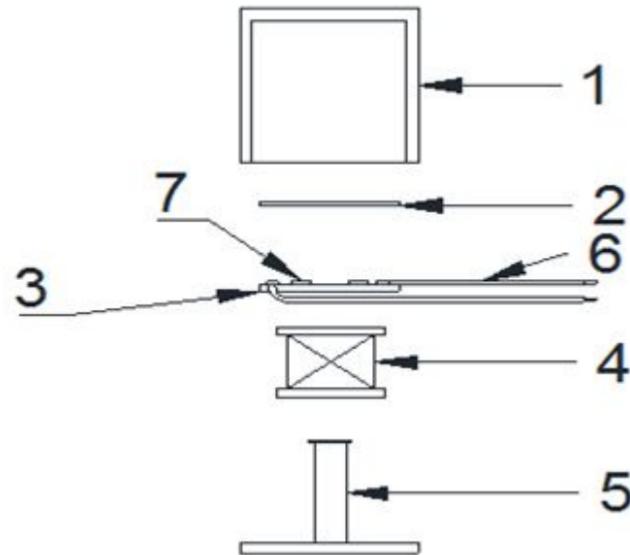
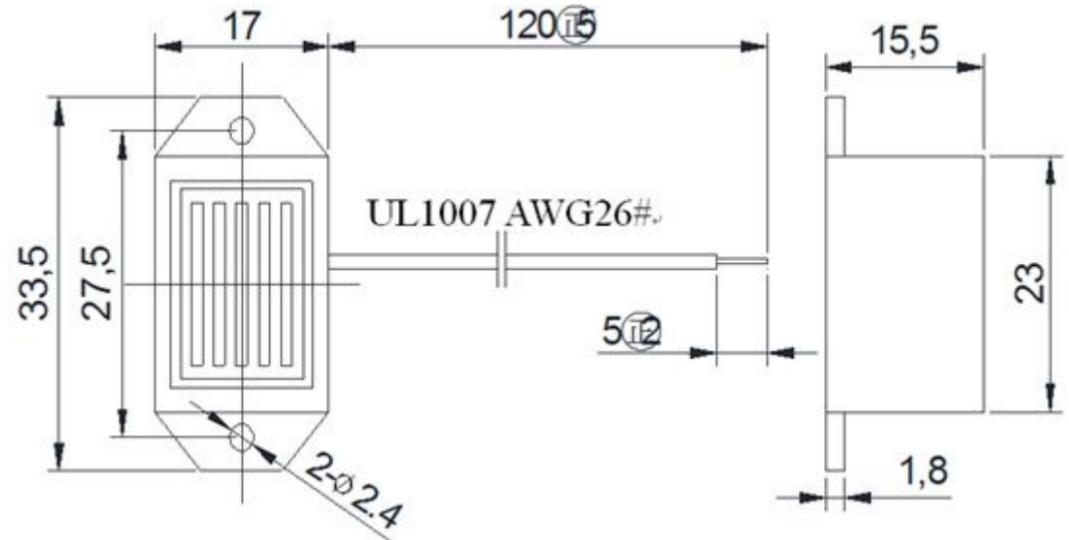
Dimensions

Page 5

Packing

Dimensions

Tolerance: ± 0.5 (unit: mm)



No.	Part Name	Material	Quantity
1	Case	ABS	1
2	Diaphragm	Polyetherimide	1
3	Cover/PCB	Epoxy	1
4	Wire	Copper	3
5	Core	Fe	1
6	Wire (120mm)	UL1007/AWG26#	2
7	Transistor	Epoxy + Copper	1



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Reliability Test

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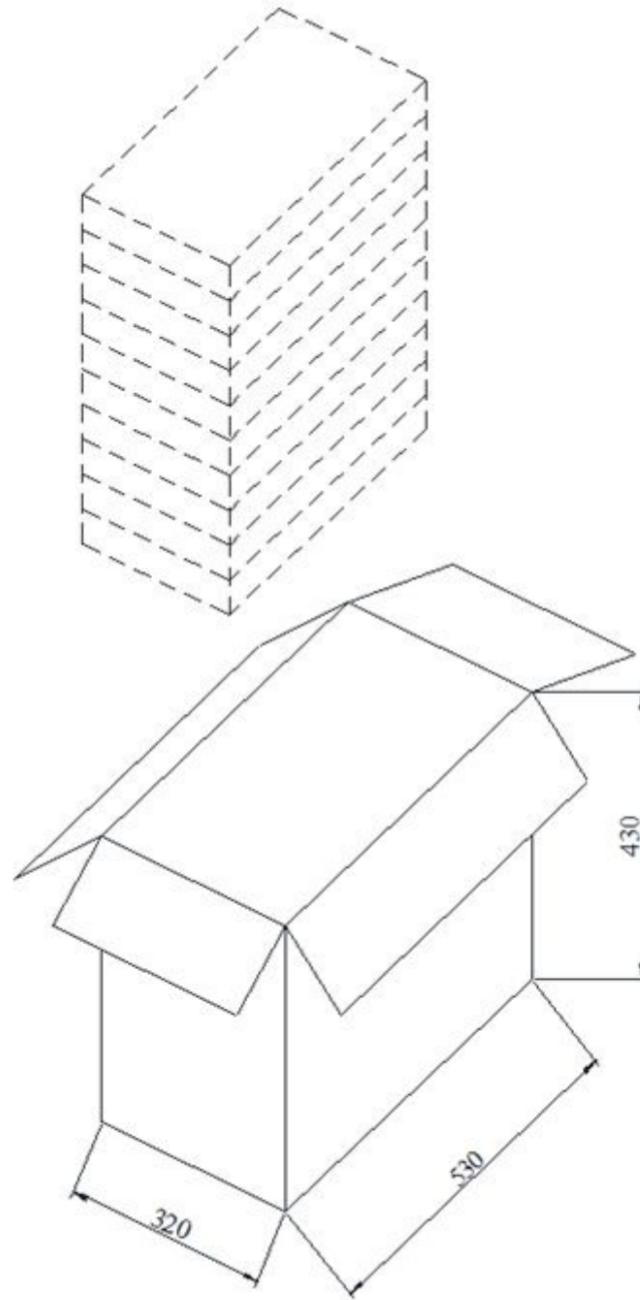
Page 4

Dimensions

Page 5

Packing

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Details

	Size (mm)	Quantity (pcs)
Styrofoam box	510 x 270 x 14	100
Outer Carton	530 x 320 x 430	1,500