



soberton inc.

# MB MECHANICAL BUZZER

Acoustic Product Specification

Product Number: MB-2317



Release | Revision: B/2018

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## Specifications

Item	Unit	Specification	Condition
Rated Voltage	VDC	12	
Operating Volt	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 x 17 x 15	See dimension
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%

## Mechanical Characteristics

Item	Test condition	Evaluation standard
Solderability	Stripped wire of lead wires are immersed in rosin for 5 seconds and then immersed in solder bath at +250±5°C for 3 ±0.5 seconds	90% min. lead terminals will be wet with solder (Except the edge of terminal)
Lead Wire Pull Strength	The pull force will 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 will be subjected to a vibration cycle of 10Hz to 55Hz to 10Hz in a period of 1 minute. Total peak amplitude will be 1.52mm(9.3G). The vibration test will 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 would be in ±10% compared with initial ones.  The SPL would be in ±10dB compared with initial one.
Drop test	The part only will be 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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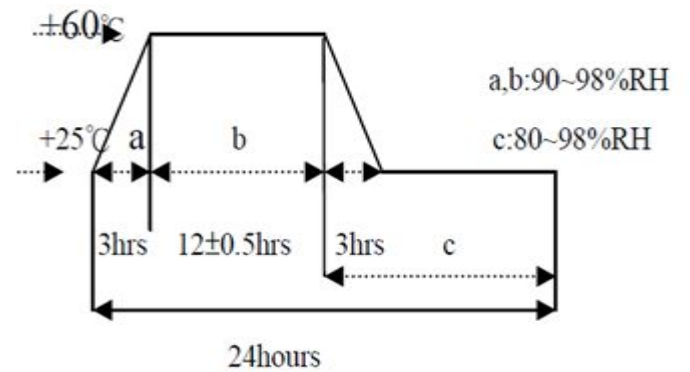
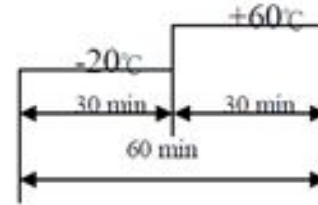
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## Environment Test

Item	Test condition	Evaluation standard
High temp. test	After being placed in a chamber at +60°C for 96 hours	Being placed for 4 hours at +25°C, buzzer will be measured.
Low temp. test	After being placed in a chamber at -20°C for 96 hours	The value of oscillation, frequency / current consumption would be in ±10% compared with initial ones.
Thermal shock	The part shall be subjected to 10 cycles. One cycle shall consist of:	The SPL would be in ±10dB compared with initial one.
Temp cycle test	The part will be subjected to 5 cycles. One cycle shall consist of:	



## Reliability Test

Item	Test condition	Evaluation standard
Operating life test	<b>Ordinary temperature</b> The part will be subjected to 96 hours at +25±10°C <b>High temperature</b> The part will be subjected to 72 hours at +60°C with 6.0V applied. <b>Low temperature</b> The part will be subjected to 72 hours at -10°C with 12.0V applied. <b>High and Low Voltage</b> Applying 8 voltage and 15 voltage, available time 24 hours each.	After test, the part will meet specifications without any degradation in appearance and performance except SPL, after 4 hours at +25°C.  The SPL would be in±10dBA compared with initial one.

### Standard test condition:

- a) Temperature: +5~+35°C
- b) Humidity: 45~85%
- c) Pressure: 860~1060mbar



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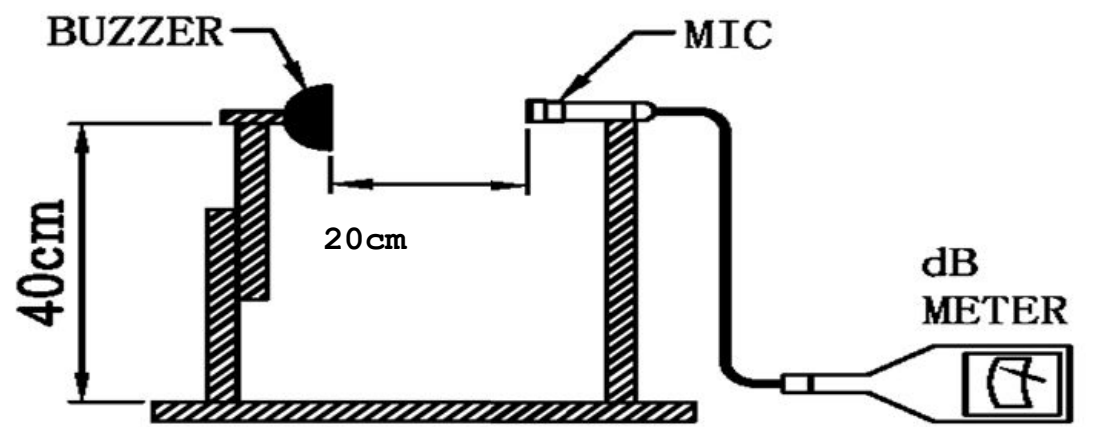
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## Measuring Method (Speaker Mode)

### S.P.L Measuring Circuit

Input Signal: 12 VDC



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



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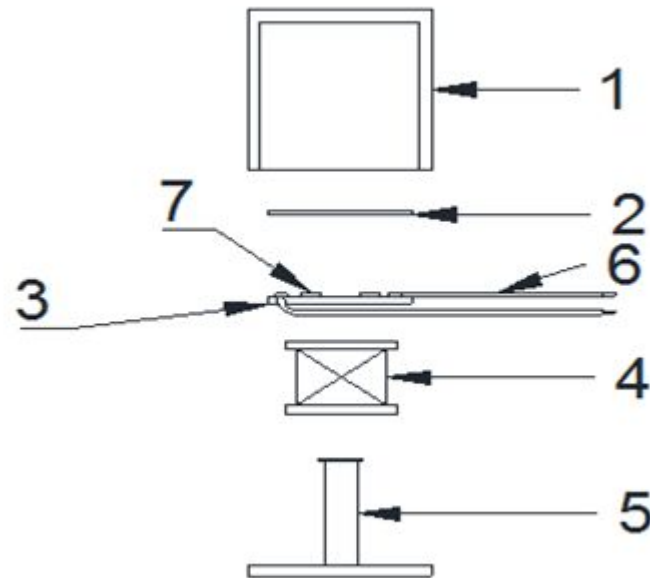
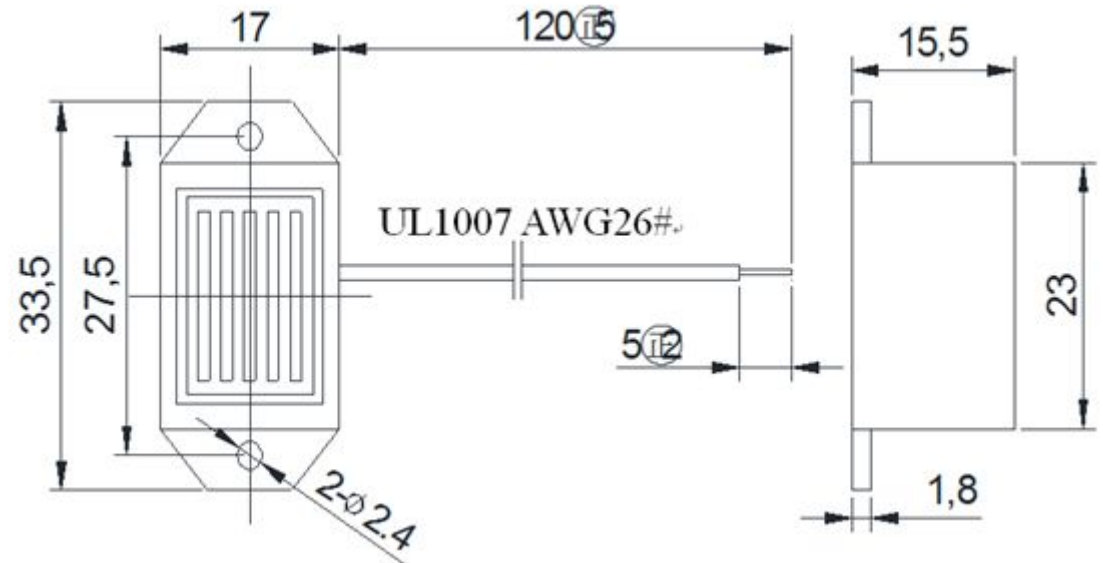
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## Dimensions

Tolerance:  $\pm 0.5$  (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	UL1007/AWG26#	2
7	Transistor	Epoxy + copper	1



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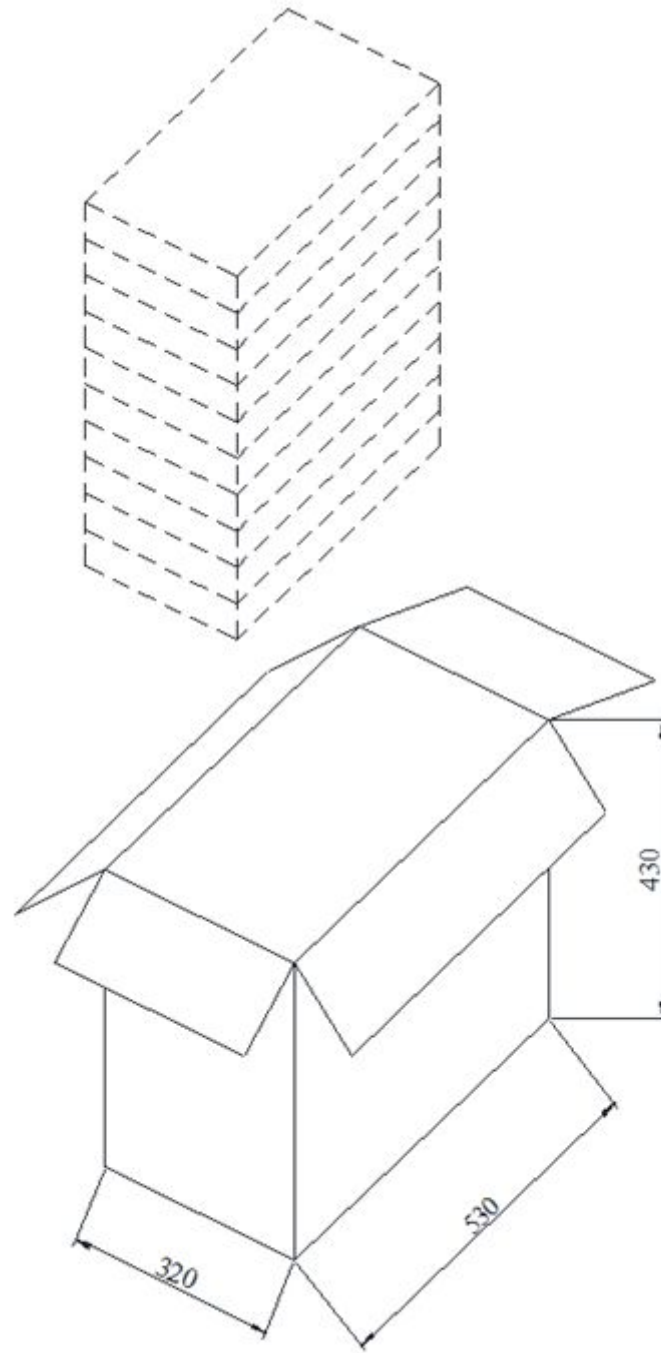
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## Packing



## Details

	Size (mm)	Quantity (pcs)
Styrofoam box	510 x 270 x 14	100
Big box	530 x 320 x 430	1500