



Magnetic Buzzer Specification

Series MFZ

Model Number: MFZ05BLFPN

Version 1.0

Address: 28 Genting Lane, #08-07 Platinum 28, Singapore 349585

Tel: +65-6493 5035

Fax: +65-6493 5037

Website: <http://www.flezon.com>

Email: flezon@flezon.com



1. Purpose and the Scope

This document contains the specific specifications (electrical and mechanical), inspection standard and the reliability standard for the purpose of the customer's approval.

2. Description

-Magnetic Buzzer

3. Applications

Ups, Household Appliance, Testing Equipment, Office Equipment, Toys, and Game etc.

4. Product Origin

China

5. Test Conditions

Test should be made under the conditions of room temperature (20 ± 10 ° C) normal humidity (60 ± 20 %) and normal atmospheric pressure. in the case, however, that the judgment is questionable the test conditions are to be changed to room temperature 20 ± 2 ° C, relative humidity 60 ~ 70 % and normal atmospheric pressure.

6. Ozone Guarantee

Certificate on the elimination of ozone layer destroying substances such as Freon.

7. Quality Protection

The specifications of the mentioned model are based on this document. Other specifications outside than this document must be discussed with us before we insert into this approval document. It means that we will not guarantee the specifications outside than this approval document.

8. Warranty.

The warranty period will commence upon the date of the receipt of the parts from FLEZON In the event that the warranty is not specified on the purchasing order, the warranty period shall be half year from the date of delivery.



9. Soldering Conditions

The miniature electronic acoustic buzzer by FLEZON should not be exposed to extremely high temperatures for prolonged period of time. As excessive heat will degrade the internal structure of the unit, soldering should be conducted as quickly as possible.

Recommended temperature and time for soldering

Hand soldering (for ABS, hi-temp ABS, FR ABS, NYLON)
300 ° C Thermal iron.

Wave soldering (NORYL, PBT, PPS)
256 ° C within 3 seconds
350 ° C within 1 seconds

10. Washing Conditions

The products mentioned with “remove after washing” could be washed by our recommended solvent.

11. Flux Removing Solvents

In the view of the recent requirement for total elimination of ozone-depleting chemicals, we have decided to recommend our customers to use deionized water for their cleaning process at the condition given below, instead of “CFC” that was conventionally used.

Cleaning solvent	: deionized water
Solvent temperature	: 55 ± 5 ° C
Immersion time	: 5 ± 0.5 minutes

12. Signal Input Polarity

If the DC voltage signal input is applied to our buzzer with the polarity reversed, no sound would be occurred.

13. DC Voltage Input

FLEZON could guarantee the sound output at the steady DC rated voltage. If any square wave or sine wave would cause the damage of the buzzer.

14. Input Voltage

The input voltage must be within the operating range. Outside than this range would damage the internal structure. It is dangerous that the user must consult FLEZON before they use it in outside operating range.

15. Sound Emission Hole

FLEZON recommends the design to use our buzzer in their application should be no barrier with minimum 5 mm to the sound emission. It will cause the shifting of the resonant frequency.

16. Mounting Precaution

If mount the flange mount buzzer on the PC Board, beware no to fix to tight to deform the housing of the buzzer. It will cause low sound output, no sound and shifting frequency.

17. Specification

Items	Specifications	Conditions
-Rated Voltage	5.0 VDC	
-Operating Voltage	3.0 ~ 7.0 VDC	
-Rated Current	Less than 30.0 mA	Applying DC rated voltage, and measured it like fig 1 measuring set up.
-Sound Output	More than 80.0 dBA	Applying DC rated voltage with measuring distance measuring set up (fig. 1) attached.
-Tone Nature	Single	
-Basic Frequency	2700 ± 200 Hz	
-Measuring Distance	10.0 cm	
Dimension	See drawing attached	
Appearance		There should be no remarkable stains, rusts or flaws.
-Housing Material	PBT	
-Terminal	Pin	
-Weight	1.0 g	
-Color	Black	
-Operating Temperature	-20.0 ~ +70.0 ° C	
-Storage Temperature	-20.0 ~ +70.0 ° C	

18. Inspection Standard

Item Tested	Sym	Standard	AQL	Level	Inspection by means of	Remarks
No Sounding		Within the operating voltage	0.25	II	Ear	At each lowest, rated, highest operating voltage, there should be no sounding, harsh sound and remarkable sound decrease
-Sound Output		More than minimum sound output 80.0 dBA mentioned in specifications when applying at rated voltage	1.00	II	Sound Pressure Level	distance at measuring distance with mounting to inspection device in a standard manner (A range) =see illustration rate d voltage
-Current		Less than 30.0 mA when applying at rated voltage	0.65	I	Multimeter	(0.5 or 1.0 class) Rated voltage
-Outer Diameter	a	$\varnothing 9.6 \pm 0.3$ (mm)	1.50	S-3	Electronic calipers	To be measured at the maximum dia.
-Overall Height	b	5.0 ± 0.3 (mm)	1.50	S-3	Electronic calipers	
Terminal Strength		More than 1.0 Kg	0.65	S-3	Tension gauge	By pulling each terminal
State of Solder			1.00	II	Magnifying glass	Soldered points and/or coil disposition should be proper. (Crossed coil wires should not be accepted)
Rust			1.00	II	Eye	Any rust should not be accepted.
Stain			1.50	II	Eye	There should be no remarkable stains.
Adhesion			1.50	II	Eye	Adhesion should be made sufficiently and there should be no outflow of adhesive agent.
Other Appearance			1.50	II	Eye	

19. Reliability Test

Item	Method of the test	Standard
Operating Temperature	Driving from the lowest operating temperature to the highest operating temperature within 30 minutes for 2 cycles then expose to the room temperature for 2 hours	All specifications must be satisfied after the test.
Storage in high temperature	Storage in test box for 96 hours under the highest operating temperature then expose to the room temperature for 2 hours	
Storage in low temperature	Storage in test box for 96 hours under the lowest operating temperature then expose to the room temperature for 2 hours	
Life test in the room temp.	Operate the buzzer continuously for 1000 hours with applying at the rated signal.	
Temperature cycle test	Make the test for 5 cycles without applying power as Fig 2, then expose to the room temp for 2 hours.	
Temperature / Humidity cycle test	Make the test for 10 cycles without applying power as Fig 3. then expose to the room temp for 2 hours	
Vibration test	Make the test for the directions of X, Y, and Z as Fig 4 for 2 hours each (total 6 hours). To-and-fro sweep time (from 10 to 55 Hz and then 55 to 10) is 1 minute.	
Drop test	Drop a buzzer naturally from the height of 700 mm onto the surface of 10mm thick wooden board. Two directions; that is, upper and side of the buzzer are to be applied for this drop test. (Fig 5)	

20 Testing Equipment List

Name	Model No.
Sound Level Meter	Bruel & Kjaer
Calibrator	Bruel & Kjaer
Voltmeter	Leader
Multimeter	Fluke
Audio Analyser	Bruel & Kjaer

Fig.1 Measuring Method

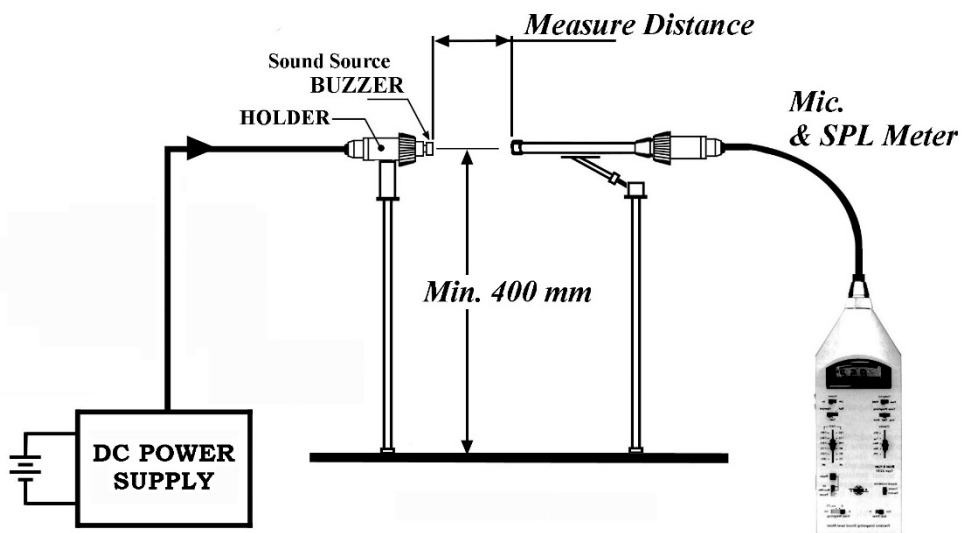


Fig.2 Temperature Cycle test

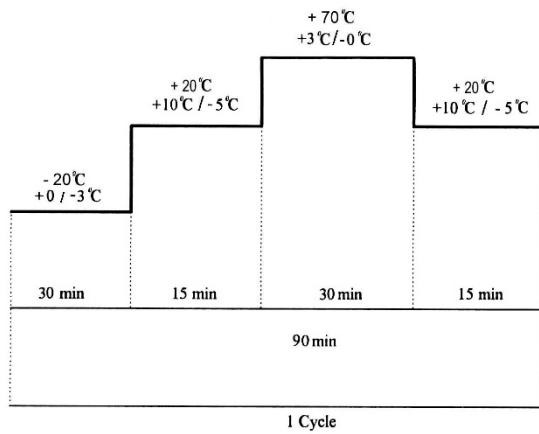


Fig. 3 Temperature / Humidity cycle test

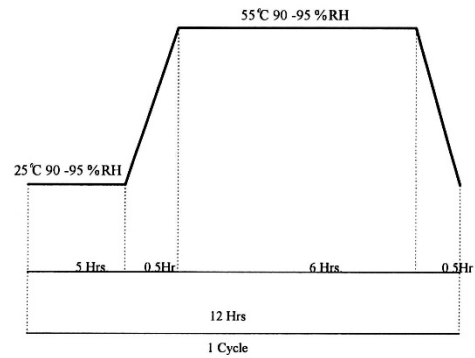


Fig. 4 Vibration test

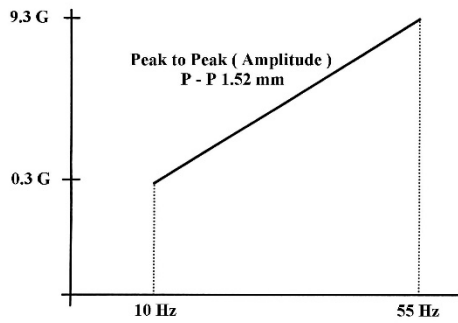
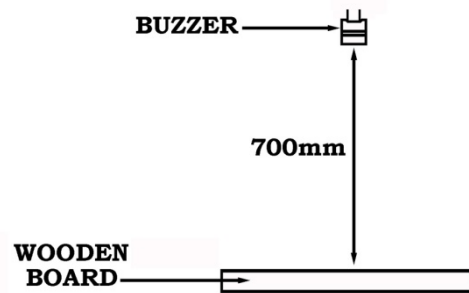
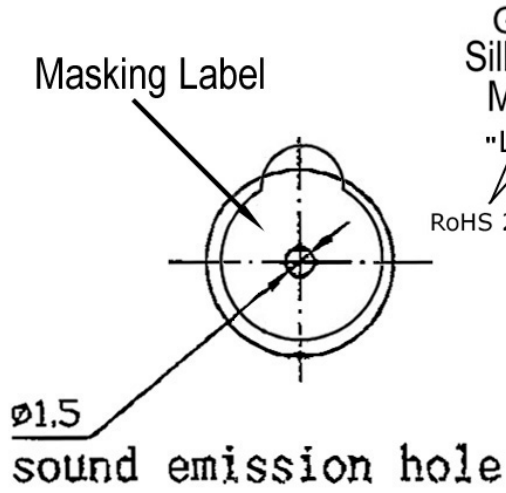


Fig. 5 Drop test

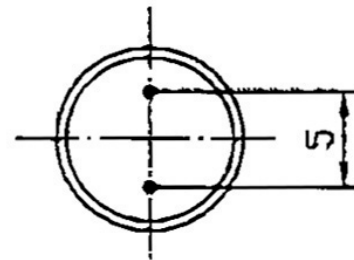
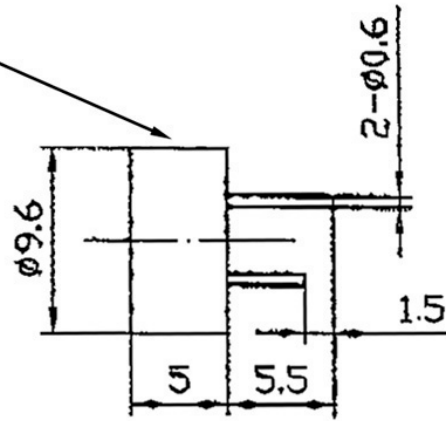


21. Mechanical Draw

TOP VIEW



SIDE VIEW



BOTTOM VIEW

all dimensions are in mm

Tolerance : ± 0.5 mm

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22. Change History

Version	Date	Description
1.0	2012.12	First release

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