

# *QMB-06D S/L Specification*

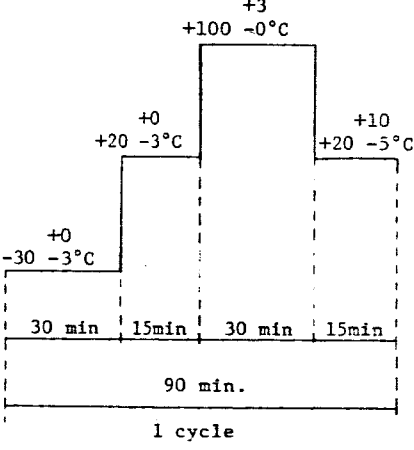
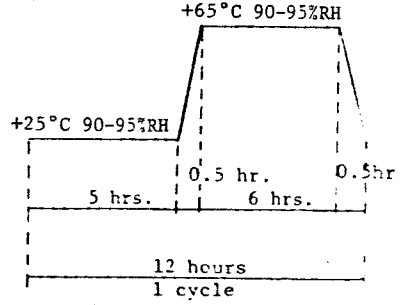
*FOR YOUR REFERENCE*

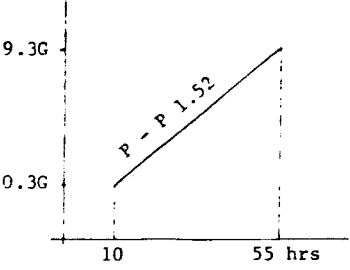


SPECIFICATIONS  
FOR QMB-06D & 12D

Items		Specifications		Conditions
		QMB-06D	QMB-12D	
1	Rated Voltage	DC 6V	DC 12V	
2	Operating Volt.	3 ~ 12 V	6 ~ 18 V	
3	Rated Current	Less than 40mA		Applying rated voltage. Square wave, 1/2duty, 2048Hz See an example of drive circuit (Fig. 1) attached.
4	Coil Resistance	52 $\Omega$	115 $\Omega$	
5	Coil Impedance	120 $\Omega$	220 $\Omega$	Applying rated voltage. Sine Wave. 2,048Hz. Measurement current:60 $\mu$ A See an example of measurement circuit on the attached Fig.2.
6	Sound Output	More than 85dB		Distance at 10cm (A-range) With applying at rated voltage, 2,048Hz. Square Wave, 1/2duty. See an example of drive circuit(Fig. 1)
7	Operating Temp.	-40 $^{\circ}$ C ~ +100 $^{\circ}$ C		
8	Pin Strength	More than 1.0kg		By pulling the pin.
9	Dimension	See the drawing attached.		
10	Weight	7.0gr.		
11	Appearance			There should be no remarkable stains, rusts or flaws.

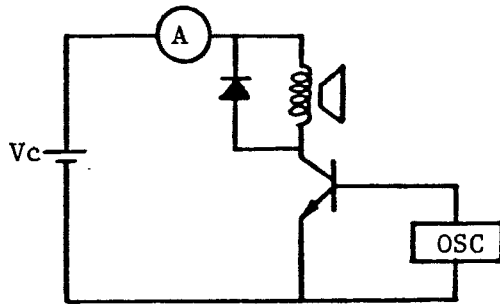
RELIABILITY TEST  
FOR QMB-06D & QMB-12D

Items	Method of the test	Standard
Operating temperature	-30°C -- +100°C	All specifications must be satisfied after the test.
Storage in high temp.	Storage in 120°C test box for 96 hours, then expose to the room temperature for 2 hours.	All specifications must be satisfied after the test.
Storage in low temp.	Storage in -40°C test box for 96 hours, then expose to the room temperature for 2 hours.	All specifications must be satisfied after the test.
Life test in the room temperature	Operate the buzzer continuously for 1,000 hours with applying rated voltage, square wave, 1/2 duty 2048Hz.	All specifications must be satisfied after the test.
Temperature cycle test	 <p style="text-align: center;">1 cycle</p> <p>Make this test for 5 cycles without applying power, then expose to the room temperature for 2 hours.</p>	All specifications must be satisfied after the test.
Temp./Humidity cycle test	 <p style="text-align: center;">1 cycle</p> <p>Make this test for 10 cycles without applying power, then expose to the room temperature for 2 hours.</p>	All specifications must be satisfied after the test.

Items	Method of the test	Standard
Vibration test	 <p data-bbox="587 689 976 913">Make this test for the directions of X, Y and Z for 2 hours each (total 6 hours). To-and-fro sweep time (from 10 to 55Hz and then 55 to 10) is 1 minute.</p>	All specifications must be satisfied after the test.
Drop test	Drop a buzzer naturally from the height of 700mm to the surface of 10mm thickness of wooden board. Three directions; that is upper, bottom and side of the buzzer are to be applied for this drop test.	All specifications must be satisfied after the test.
Solderability of pins	Solder temp.: 260°C Dipping time: 5 sec.	

QMB-06D & QMB-12D

Example of drive circuitry



Tr = 2SC945 (Q)  
D = 1S1588

Fig. 1

Inspection device for sound level

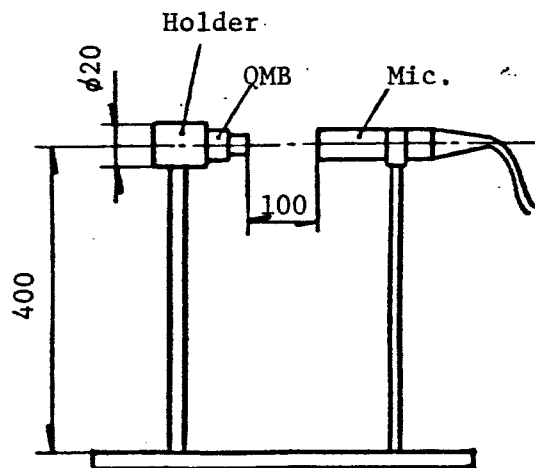
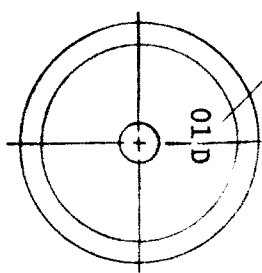


Fig. 2



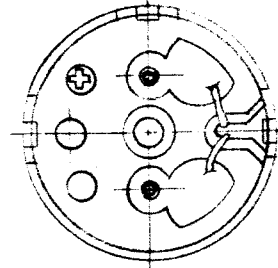
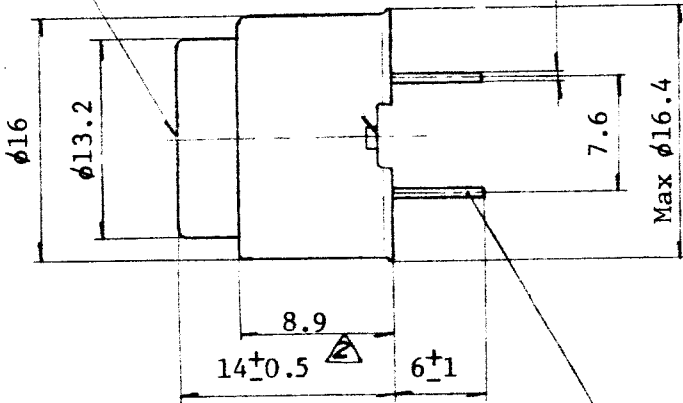
Polarity Mark for "+"

Voltage:  
Production Date:  
(Stamping)

$\phi 2.3 \pm 0.1$  Center Hole

3-Ventage  
3-Caulking  $\Delta$

$\phi 0.7 \pm 0.1$



Cu, Tin Plating

How to read the code number:  
(stamping by immortal ink)

Example

01 D

Production date indicated by alphabetical order from A to X

Voltage : 01, 06, 12

[Production Date]

A: January, B: February, --- L: December

M: next January, --- X next December

TOLERANCE: $\pm 0.2$		$\Delta$ Oct. 29, '80	Tolerance
		$\Delta$ Sep. 17, '80	3-Caulking
		MARK	DATE
		REVISION	
DRAW:	MATERIAL	Case: Alminum A1080P-0	STAR MFG. CO., LTD.
TRACE:	HARDNESS		
CHECK: <i>y. Tsuchiya</i>	SURFACE TREATMENT		CODE
APPROVED: <i>T. Itoh</i>			QUANT.
SCALE 2/1			-06D 45250000
UNIT mm			-12D 45260000
DATE Apr. 18, '80	NAME	QMB-06D, 12D	
			DRG. NO. SQBH-500