SPECIFICATION FOR PIEZO ELECTRIC BUZZER

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Customer		Model Name	FT-20T-3.9A12
Customer P/N		Product No.	
Date	12 Aug. 16	Issue No.	BS/TEY01. 018
Page	01 of 06	Issue Date	16/08/12

Approval：

1.Electrical characteristics
2.Dimension
3.Characteristics
4.Measuring Method
5.Reliability Test
6.Packing
7.History Change Record

Drawn by	Checked by	Approved by	Customer approved

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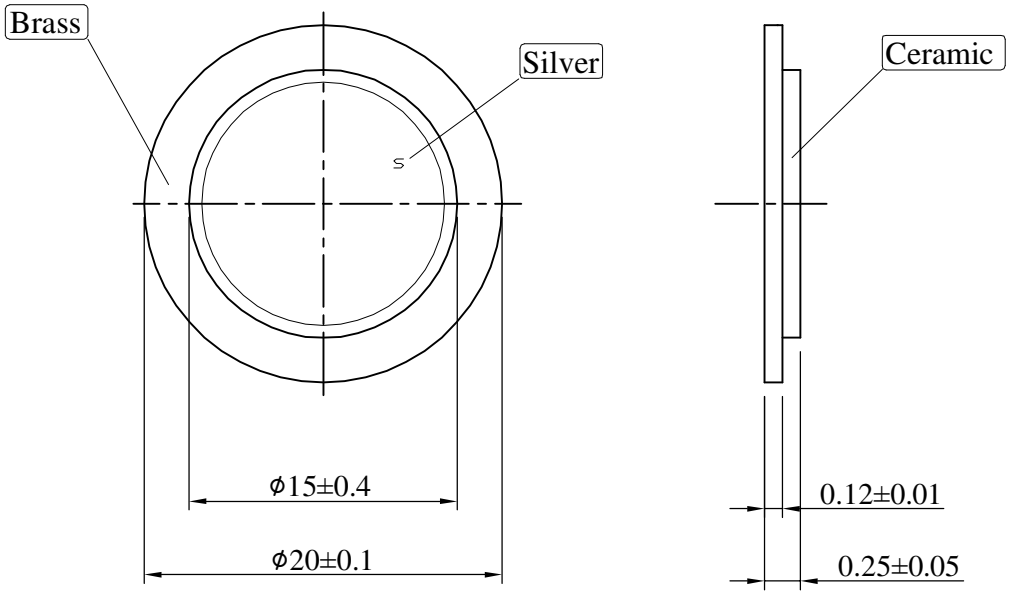
FT-20T-3.9A12

1.Electrical characteristics

1.	Resonant Frequency	3.9±0.4 K Hz
2.	Resonant Impedance	300 ohm max.
3.	Capacitance at 100Hz	30±30% nF
4.	Input Voltage	30 Vp-p
5.	Operating Tmperature	-40...+85°C
6.	Storage Temperature	-40...+85°C
7.	Metal Material	Brass

2.Drawing



Unit:mm

Rev.	Date	Drawn	Note			
				Date:	16/08/12	FT-20T-3.9A12
				Drawn by:	Li u Ruf eng	
				Checked by:	Zou Dongpi ng	Piezo Ceramic Element
				Approved by:	Li Hongyuan	
BESTAR ELECTRONICS INDUSTRY CO.,LTD www.be-star.com wu@be-star.com					DRG NO: BS/TEY01.018	Page:02 of 06

3.Characteristics:

3.1 Solderability

Solder AWG 30 wire with solder wire(Pb10Sn88Ag2) at 280±10°C on the ceramic , less than 2 seconds duration of soldering.

3.2 Lead pull off test

a) Wire to be soldered on ceramic at the edge. It should withstand minimum 13N force applied in 180° .The wire should not come out before this .The ceramic can be either glued on a surface of can be held in hand.(Fig.3.2)

b) Wire to be soldered on ceramic at the edage&should be pulled up at 90° The element should be hold on bottom and wire should be pulled up .It should withstand at least for 1.5N force(Fig.3.1)

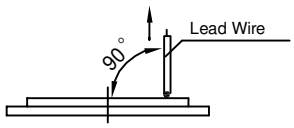


Fig.3.1 Direction of Lead Wire

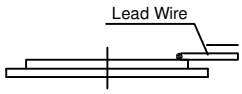


Fig.3.2 Direction of Lead Wire

4.Measuring Method

4.1.Resonant Frequency/ Resonant Impedance:

Piezoelectric disc shall be clamped at a node or edge point ,figure to be free from any mechanical stresses,and measure its resonant frequency and resonant impedance by using vector impedance analyzer or equivalent.

Input frequency shall be swept within 1 to 5 kHz, where the resonant frequency is defined and the frequency

where the impedance shows minimum value, this impedance shall be the resonant impedance.

4.2.Capacitance:

A electrostatic capacity capacitance shall be measured at 120Hz by using LCR meter, such as DF2812A LCR number bridge or equivalent. The part shall be clamped in the same way as the measurement of resonant frequency / resonant impedance mentioned in section 4.1.

4.3.Insulation Resistance:

An insulation resistance shall be measured by using an insulation resistance meter,suach as DF2863 insulation resistance meter.

4.4.Measureing Condition:

Parts shall be measured under a condition(Temperature:+15°C to +30°C,Humidity:60 to 90% R.H.) unless the standard condition(Temperature:+25±3°C,Humidity:60±10%R.H.)is redulated to measure.

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5.Reliability Test:

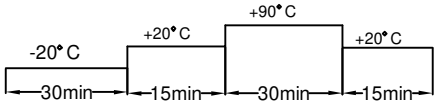
5.1.High Temperature Test

Temperture	+90°C
Duration	240hrs

5.2.Low Temperature Test

Temperature	-20°C
Duration	240hrs

5.3.Temperature Cycle Test



all these tests above should be measured after leaving normal temperature for 2hrs.

Cycles	5

5.4.Humidity

Temperature	40±2°C
Relative Humidity 90~95R.H.	
Duration	240hrs

5.5.Vibration Test

Vibration Frequency	10~55Hz
Amplitude	1.52mm
Duration	2 hrs each of 3 axis

5.6.Shock

Piezoelectric disc shall be measured after applying shock at (980m/s^2) for each three mutually perpendicular (XYZ) directions by half sine waves,3 times each

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				Checked by:	Zou Dongping	Piezo Ceramic Element
				Approved by:	Li Hongyuan	

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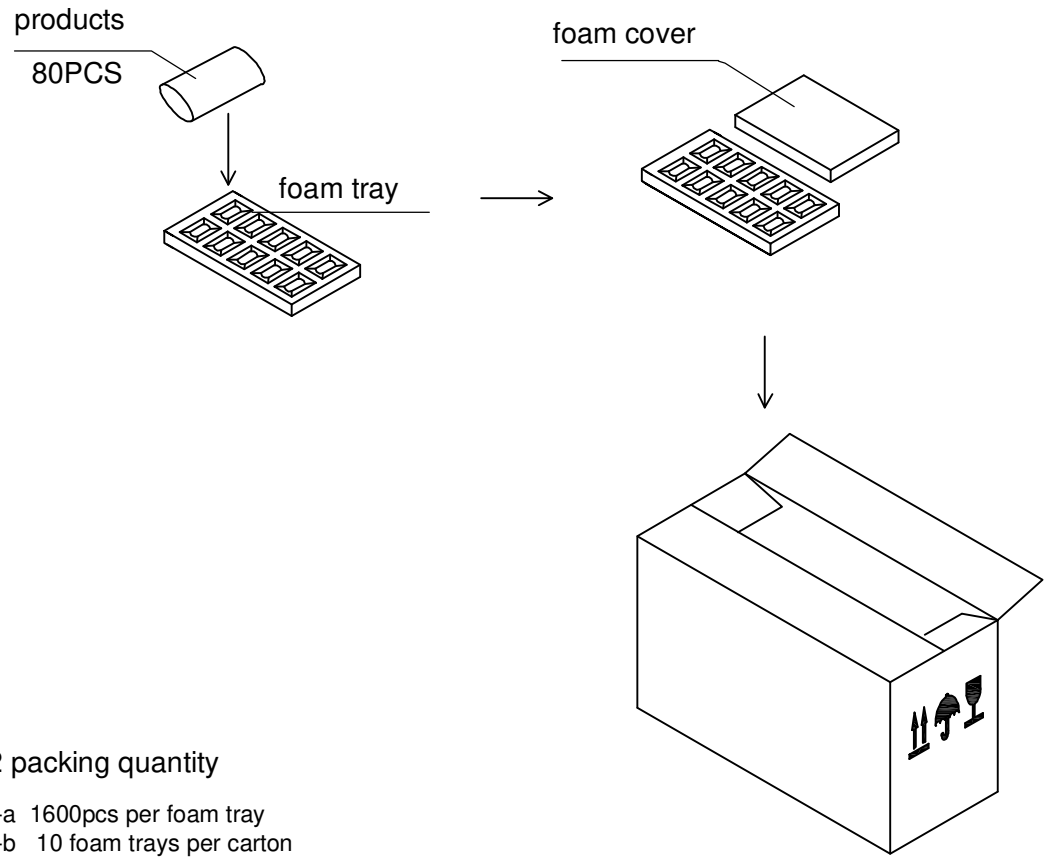
6.Packing

6.1Packing Drawing



6.2 packing quantity

6.2-a 1600pcs per foam tray
6.2-b 10 foam trays per carton
6.2-c Total 16000pcs per carton
6.2-d Carton size 35×25×20cm
6.2-e Piezos shall be packaged in suitable low-sulfur . air tight stacking containers to prevent oxidation of the metal disc. corrosion of the silver electrode. And damage during shipment and storage. Cartons shall be stackable to four feet high without damage to piezos.

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7.History change record

version No.	Change Items		Date	Drawn	Approved
	Before	After			
X1			16/08/12	Liu Rufeng	Li Hongyuan