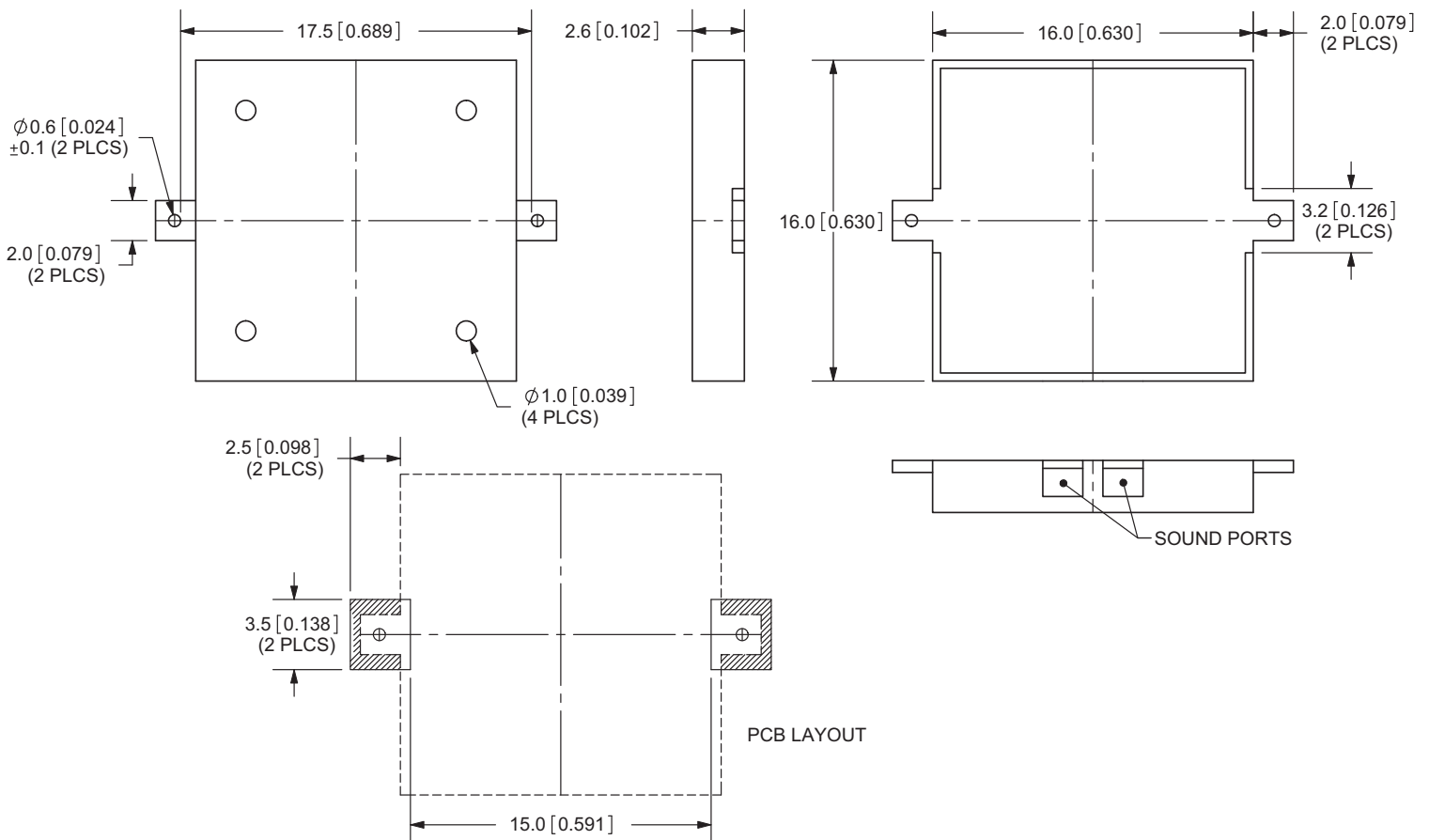


PART NUMBER: CMT-1604
DESCRIPTION: PIEZO AUDIO TRANSDUCER

SPECIFICATIONS

parameter	conditions/description	min	nom	max	units
operating voltage				25	V p-p
current consumption	at 3 V p-p, 4,000 Hz square wave			5	mA
sound pressure level	at 10 cm, 3 V p-p, 4,000 Hz square wave	81			dB
electrostatic capacity	at 1 KHz, 1 V	14,000	20,000	26,000	pF
operating temperature		-40		120	°C
storage temperature		-40		120	°C
dimenstions	16.0 x 16.0 x 2.6 mm (L x W x H)				
weight				0.96	g
material	L.C.P. (white) + PCB (FR4)				
terminal	SMD type (Sn plating)				
RoHS	yes				

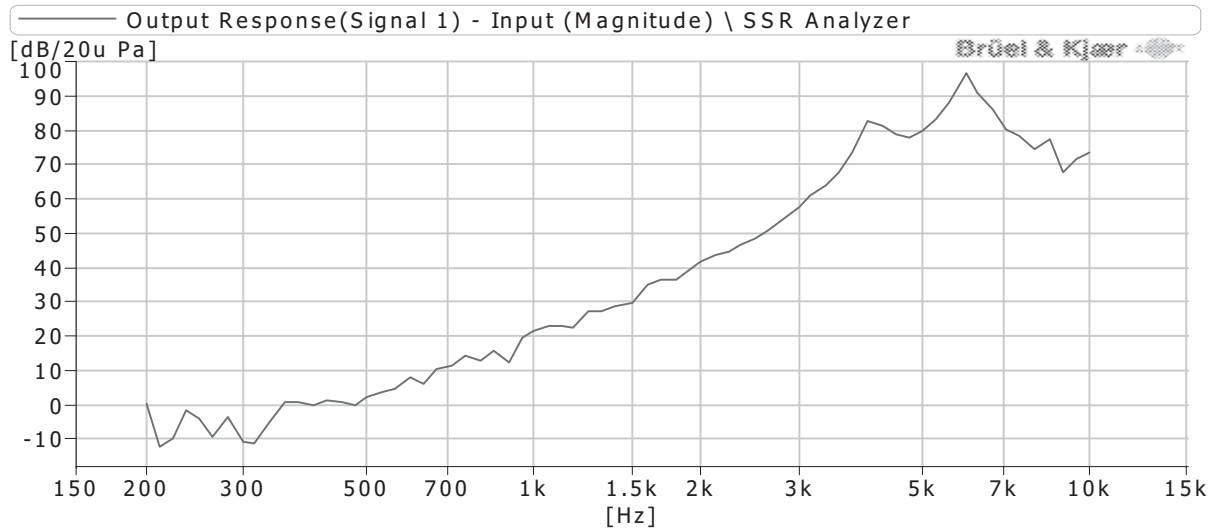
APPEARANCE DRAWING



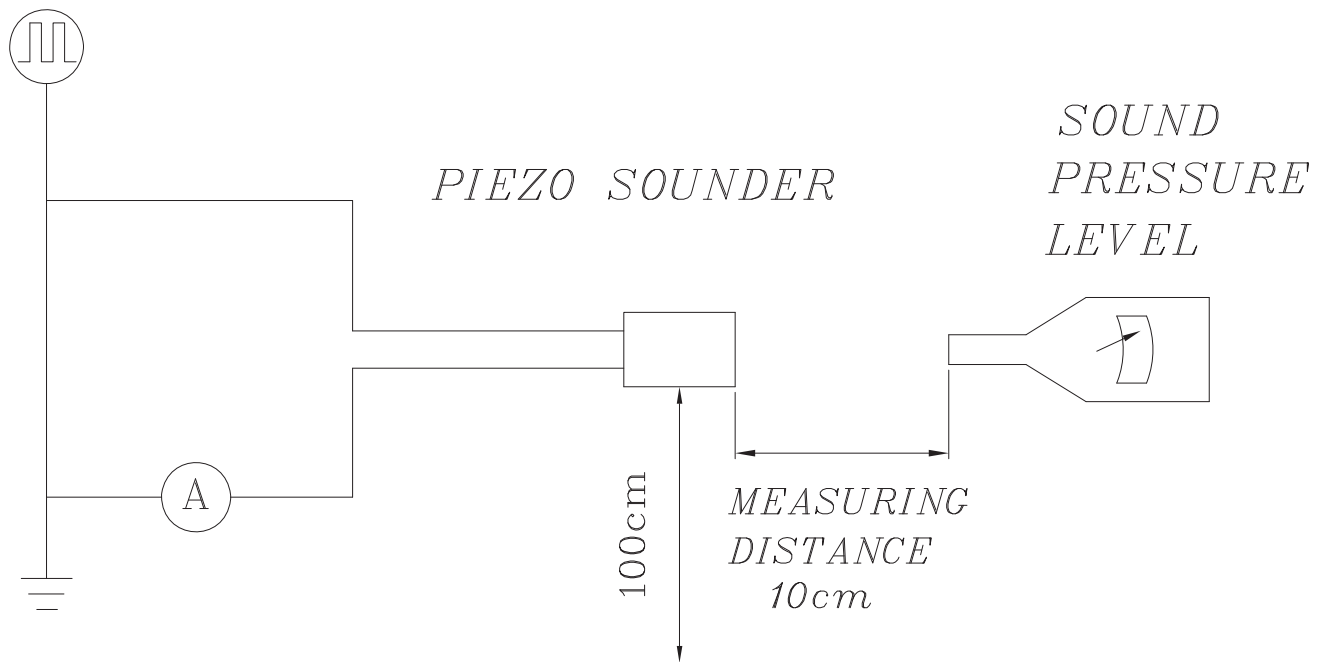
PART NUMBER: CMT-1604

DESCRIPTION: PIEZO AUDIO TRANSDUCER

FREQUENCY RESPONSE CURVE



MEASUREMENT METHOD



S.P.L. Measuring Circuit
 Input signal: 3 V p-p, square wave, 4,000 Hz
 Temperature: 25±3°C
 Humidity: 60±10%, free room

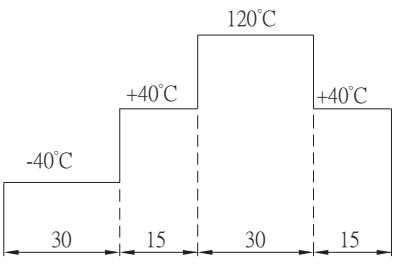
PART NUMBER: CMT-1604
DESCRIPTION: PIEZO AUDIO TRANSDUCER

MECHANICAL CHARACTERISTICS

item	test condition	evaluation standard
solderability	Lead terminals are immersed in rosin for 5 seconds and then a solder bath of $+270 \pm 5^\circ\text{C}$ for 2 ± 0.5 seconds.	95% min. of the surface of the lead pads will be covered with solder.
soldering heat resistance	1) IR Reflow Pre-heating conditions of $150\sim 200^\circ\text{C}$ for $60\sim 180$ seconds. Ascending time up to 250°C shall be longer than 55 seconds. Heating conditions will be within 15 seconds at 245°C min. Peak temperature will be lower than 250°C , then after being placed in natural conditions for 1 hour, the transducer will be measured. 2) Soldering Iron Soldering iron of $270 \pm 5^\circ\text{C}$ will be placed 0.5 mm above the electrode of the transducer. Melting solder through the soldering iron will be applied to electrode for 3 ± 1 seconds. Then, after being placed in natural conditions for 4 hours, the transducer will be measured.	No interference in operation.
terminal mechanical strength	For 10 seconds, the force of 9.8 N (1.0 kg) is applied to each terminal in each axial direction.	No damage or cutting off
vibration test	The buzzer should be measured after a vibration amplitude of 1.55 mm with 10 ~ 55 Hz band of vibration frequency to each of the 3 perpendicular directions for 2 hours.	After the test, the part will meet specifications without any damage in appearance and performance except SPL. The SPL should be within $\pm 4\text{dB}$ compared to the initial measurements; higher than 81 dB.
piezo assembly solder joint rally test	Piezo assembly on the spot for each piece of wire, to exert the level of tension, the rate of 20 mm/minute, may have to bear the minimum of 200 g rally.	The product which was tested cannot be packed and delivered, it should be abandoned.

ENVIRONMENT TEST

item	test condition	evaluation standard
high temperature test	After being placed in a chamber at $+120^\circ\text{C}$ for 240 hours.	The buzzer will be measured after being placed at $+25^\circ\text{C}$ for 4 hours. The value of the oscillation frequency / current consumption should be $\pm 10\%$ compared to the initial measurements. The SPL should be within 4 dB compared to the initial measurements. Higher than 81 dB.
low temperature test	After being placed in a chamber at -40°C for 240 hours.	
humidity test	After being placed in a chamber at $+40^\circ\text{C}$ and $90 \pm 5\%$ RH for 240 hours.	
temperature cycle test	The part will be subjected to 5 cycles. One cycle will consist of:	



Unit: Minute

PART NUMBER: CMT-1604
DESCRIPTION: PIEZO AUDIO TRANSDUCER

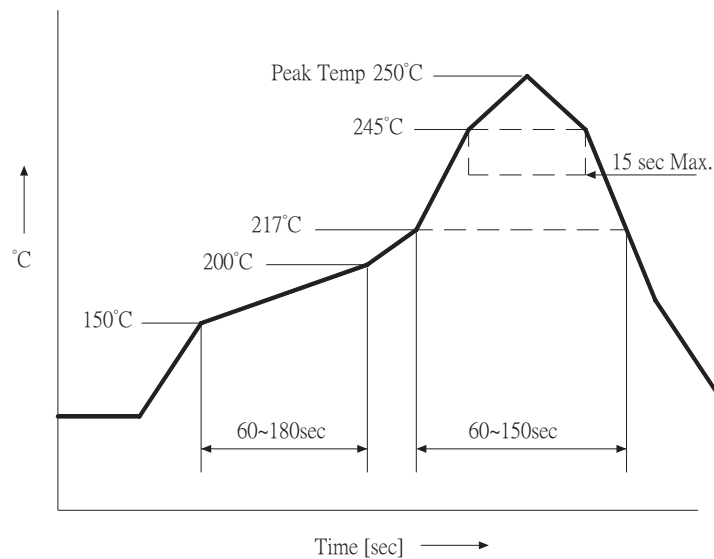
RELIABILITY TEST

item	test condition	evaluation standard
operating (life test)	1. Continuous life test: The part will be subjected to 48 hours of continuous operation at 105°C with rated voltage applied. 2. Intermittent life test: A duty cycle of 1 minute on, 1 minute off, a minimum of 5,000 times at room temp (+25 ±2°C) with rated voltage applied.	The buzzer will be measured after being placed at +25°C for 4 hours. The value of the oscillation frequency / current consumption should be ±10% compared to the initial measurements. The SPL should be within 4 dB compared to the initial measurements. Higher than 81 dB.

TEST CONDITIONS

standard test conditions	a) Temperature: +5 ~ +35°C	b) Humidity: 45 ~ 85%	c) Pressure: 860 ~ 1060 mbar
judgement test conditions	a) Temperature: +25 ±2°C	b) Humidity: 60 ~ 70%	c) Pressure: 860 ~ 1060 mbar

RECOMMENDED TEMPERATURE PROFILE FOR REFLOW OVEN



PART NUMBER: CMT-1604
DESCRIPTION: PIEZO AUDIO TRANSDUCER
PACKAGING
