



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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**MODEL:** PT-1704  
**PRODUCT:** Piezo Buzzer  
**EDITION:** A/2017

**THIS SPECIFICATION APPLIES TO THE PIEZO BUZZER**

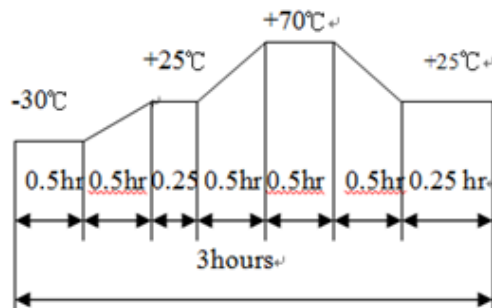
**SPECIFICATION**

Test condition: TEMP=+25±2 °C Related humidity=65±5% Air pressure: 860 ~ 1060mbar

item	unit	specification	condition
rated voltage	VDC	3.0	
operating volt	VDC	1 ~ 30 Max	
current consumption	mA	3 Max	At 3V p-p, 1/2 duty, square wave, 4.0 KHz
sound output	dba	75	At 10 cm / 3V p-p, 1/2 duty, square wave, 4.0KHz
resonant frequency	Hz	4000	
capacitance at 30 Hz	PF	15000 ± 30	at 120Hz
operating temp	°C	-20 ~ +70	
storage temp	°C	-30 ~ +80	
dimension	mm	ø17.0x4.0 (85mm)	See attached drawing
weight	gram	1.0	
material		PPO (Black)	
terminal		Wire type	See attached drawing
environmental protection regulation		RoHS	

**ENVIRONMENT TEST**

item	test condition	evaluation standard
high temp. test	After being placed in a chamber at +70°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 -30°C for 96 hours.	The value of oscillation, frequency / current consumption would be in ±10% compared with initial one.
Humidity test	After being placed in a chamber at +70°C, and 90±5% relative humidity for 96hours	The SPL would be in ±10dB compared with initial one.
Temp. cycle test	The part will be subjected to 5 cycles. One cycle shall be consist of:	





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## RELIABILITY TEST

item	test conditions	evaluation standard
operating life test	CONTINUOUS LIFE TEST 72 hours of continuous operation at +60°C with maximum rated voltage applied.	After the 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 $\pm 10$ dba compared with initial one.
	INTERMITTENT LIFE TEST A duty cycle of 1 minute on, 5 minutes off, a minimum of 1000 times at $+25 \pm 2^\circ\text{C}$ and maximum rated voltage applied	

### TEST CONDITION

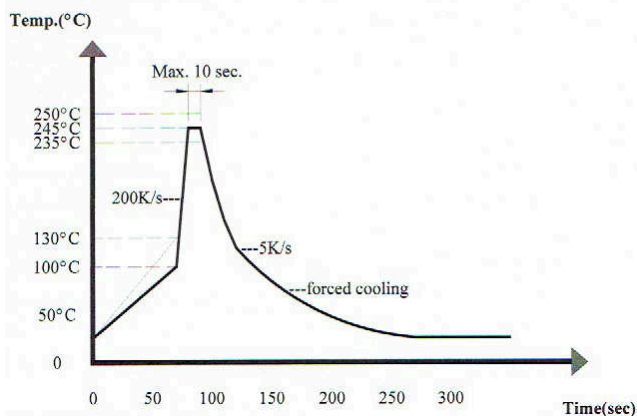
Standard Test Condition: a)Temperature:  $+5 \sim +35^\circ\text{C}$  b)Humidity:45~85% c)Pressure: 860~1060mbar

## MECHANICAL CHARACTERISTICS

item	test conditions	evaluation standard
solderability	Stripped wires of lead wires are immersed in rosin for 5 seconds and then immersed in solder bath of $+250 \pm 5^\circ\text{C}$ for $3 \pm 0.5$ seconds.	90% min. stripped wires shall be wet with solder (Except the edge of the terminal.)
lead wire pull strength	The pull force shall 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	Buzzer will be measured after being applied vibration of amplitude of 1.5mm with 10Hz to 55Hz band of vibration frequency to each of 3 perpendicular directions for 1 hour.	The value of oscillation frequency current consumption should be in $\pm 10\%$ 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.	The SPL would be in $\pm 10$ dB compared with initial one

## RECOMMENDED TEMPERATURE PROFILE

### \* Wave Soldering profile of lead-free



Recommendable wave soldering condition is as follows:

Note 1: It is requested that wave soldering should be executed after heat of product goes down to normal temperature.

Note 2: Peak wave temperature of  $235^\circ\text{C}$  maximum of 10 seconds.

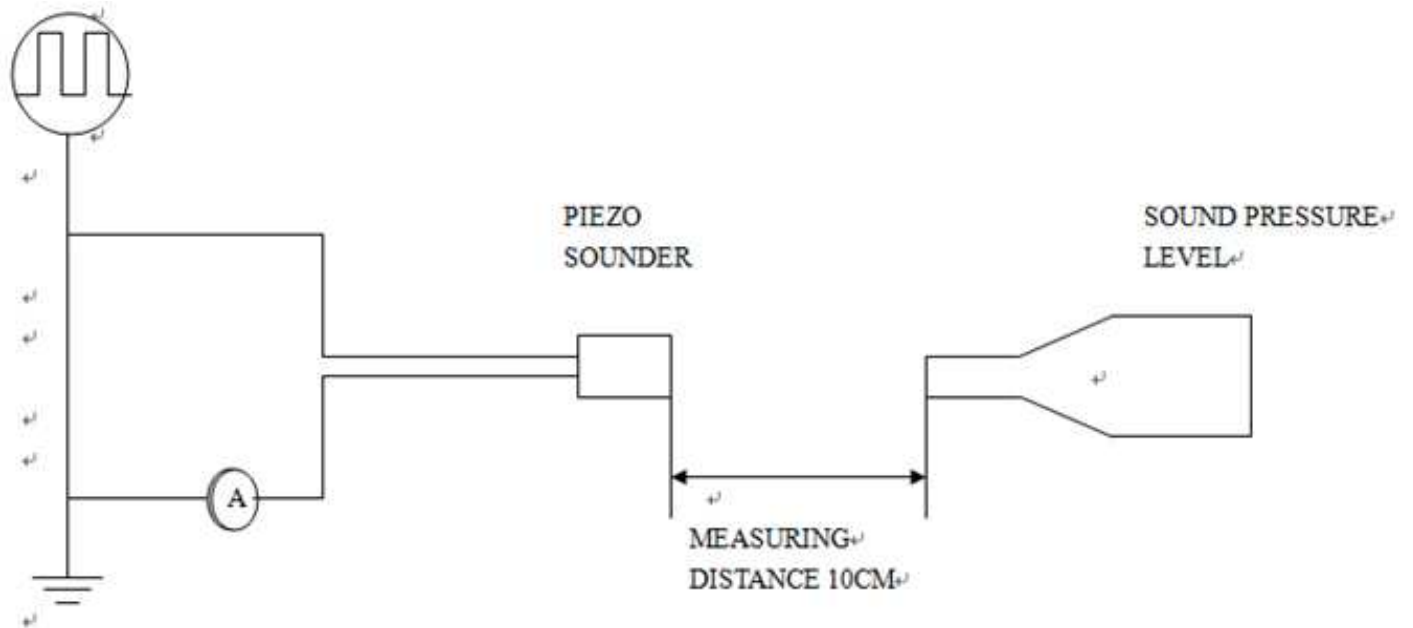


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## MEASURING METHOD

S.P.L Measuring Circuit

Input Signal: 3.0V p-p, 4.0KHz, 1/2 duty, square wave



Mic: TES S.P.L meter1351B or equivalent

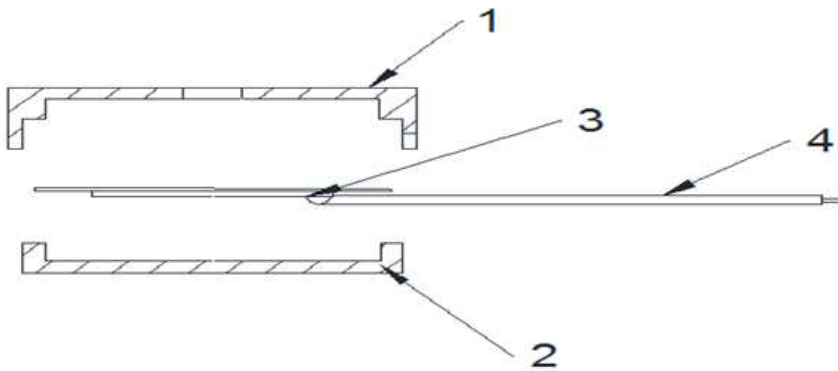
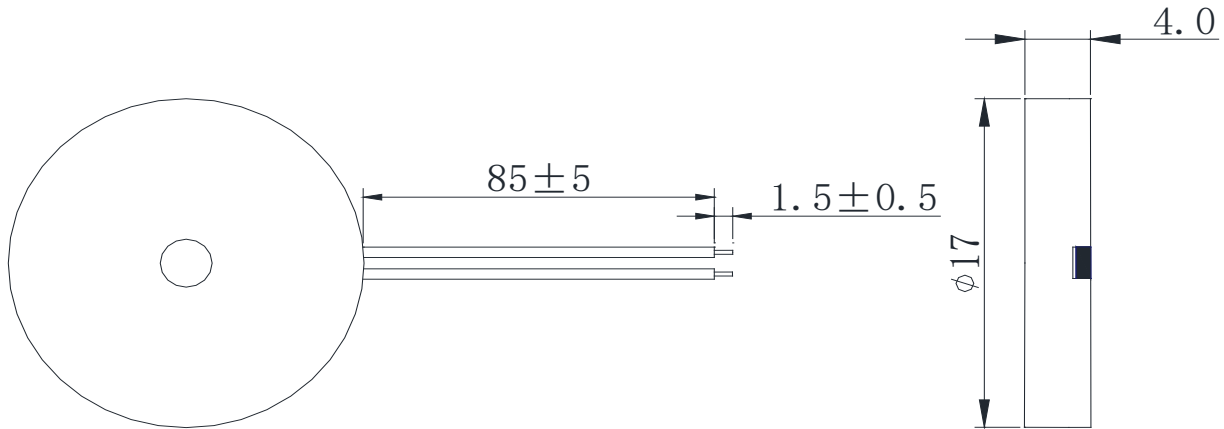
S.G: EE1641B Function Generator or equivalent



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**DRAWING**

Tolerance:  $\pm 0.5$  (unit: mm)

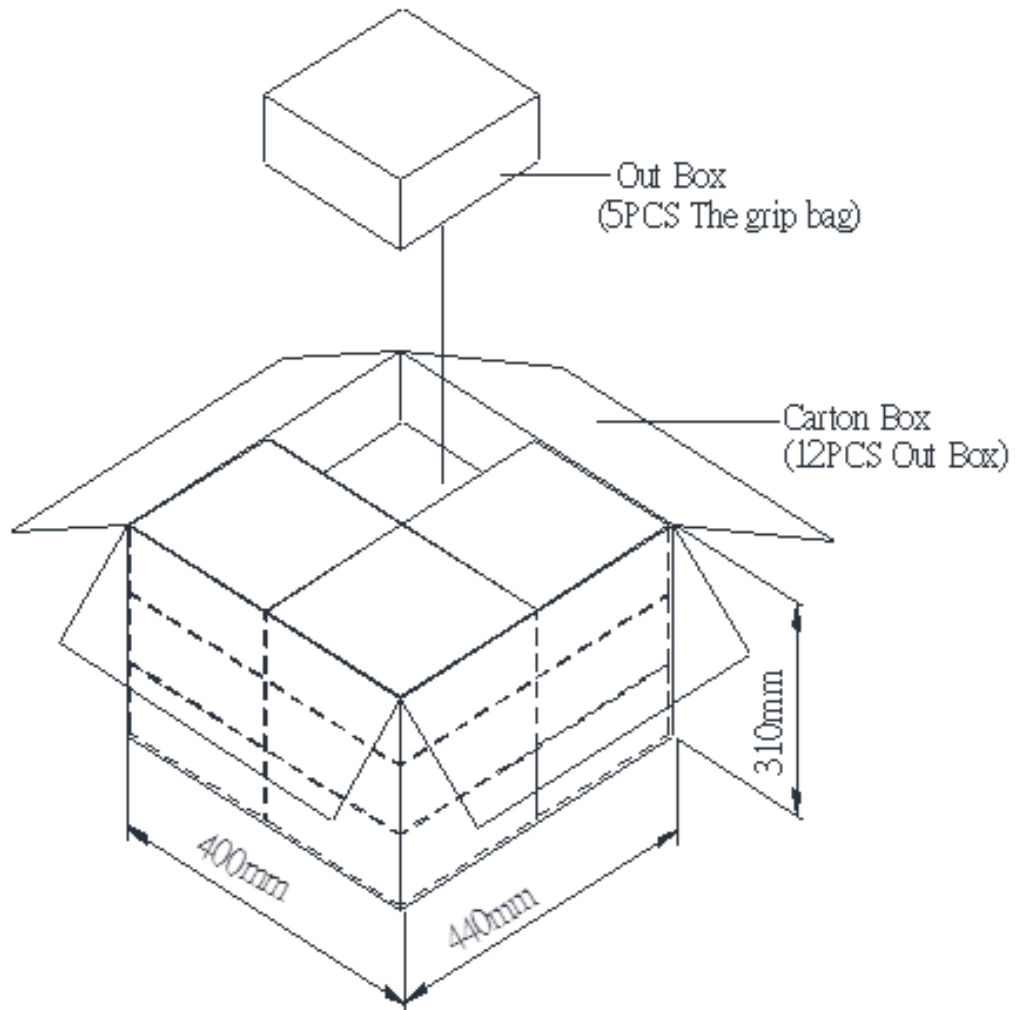


no	item	material	quantity
1	Case	PPO	1
2	Case	PPO	1
3	Piezo	Copper + Ceramics	1
4	Wire	PVC + Copper	2



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**PACKING**



Packing	LxWxH (mm)	Q'TY
Bag	170×120×0.1	200
Box	210×190×100	1000
Carton	440×400×310	12000