



请承认书

Version No.: V2.0

常州昊翔电子有限公司  
Changzhou HaoXiang Electronic Co., LTD

客户名称

CUSTOMER NAMER : \_\_\_\_\_

产品名称

COMMODITY : PIEZO BUZZER

产品型号

MODEL NO : TDA-15230

客户料号

PART NO : \_\_\_\_\_

审核	秦皓	主办	唐俐雅 Aug.28,2018
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客户承认栏			
承认		拒收	

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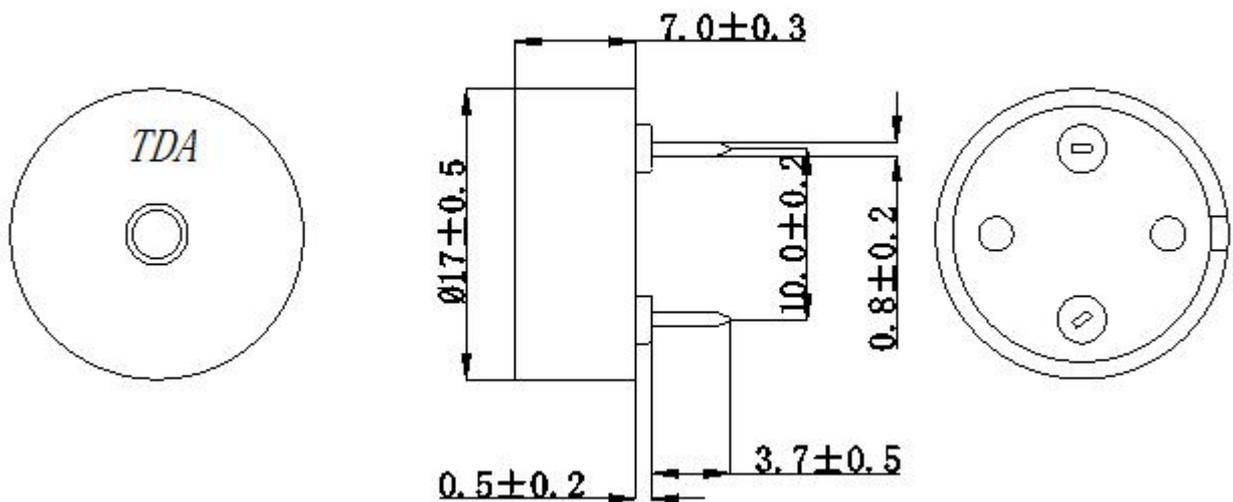
## A. SCOPE

This specification applies piezo buzzer, **TDA-15230**

## B. SPECIFICATION

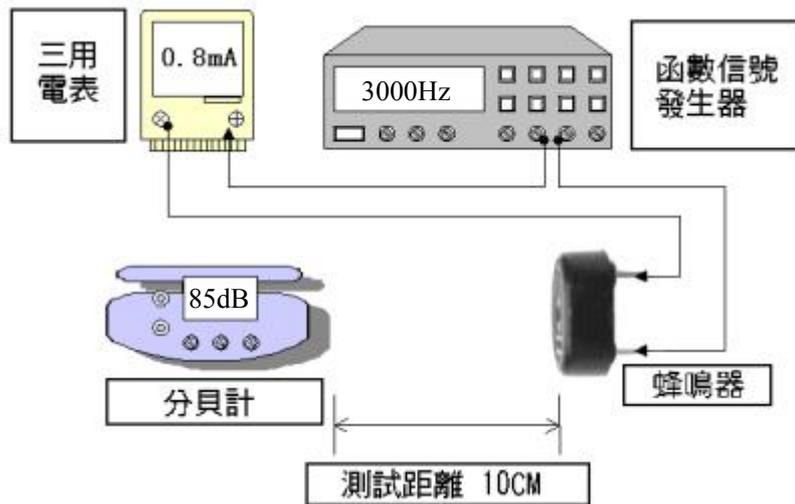
No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	Hz	3000	square wave
2	Operating Voltage	Vp-p	30 max	
3	Current Consumption	mA	MAX. 2	at 5Vp-p
4	Sound Pressure Level	dB	MIN. 85	at 10cm 9Vp-p 3000Hz
5	Operating Temperature	°C	-20 ~ +70	
6	Storage Temperature	°C	-30 ~ +80	
7	Dimension	mm	Ø17.0xH7.5	See appearance drawing
8	Weight (MAX)	gram	1.5	
9	Housing Material		PBT( Black )	
10	Leading Pin		Tin Plated Brass(Sn)	See appearance drawing
11	Environmental Protection Regulation		RoHS	

## C. APPEARANCE DRAWING

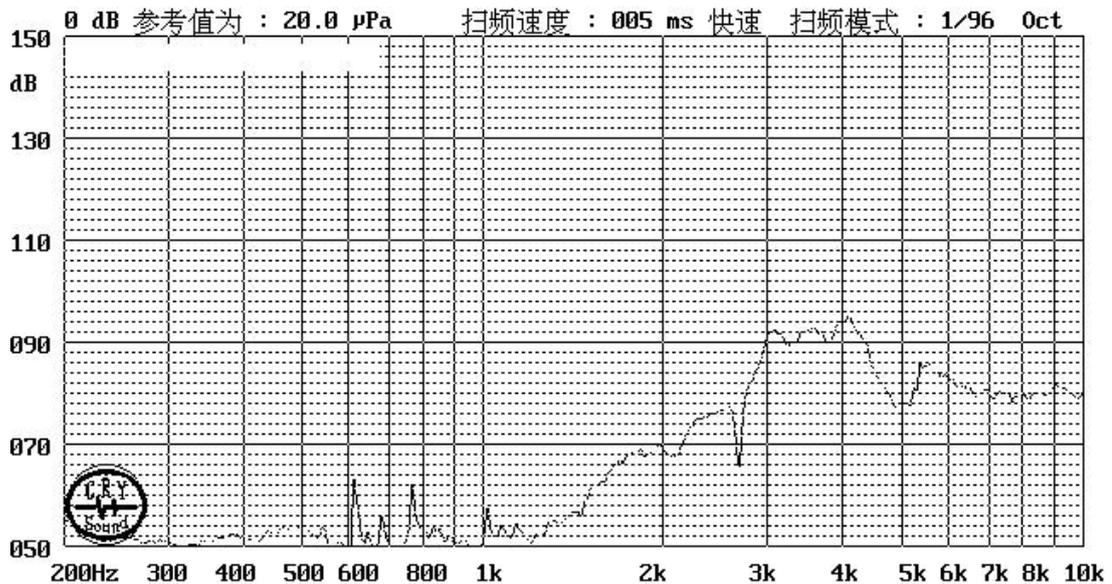


Unit:mm

## D. RECOMMEND DIRVING CIRCUIT



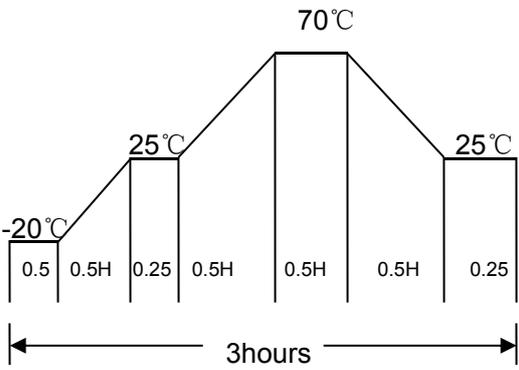
## E.FREQUENCY CURVE



## F. MECHANICAL CHARACTERISTICS

NO	Item	Test Condition	Evaluation standard
1	Solderability	Stripped wires of lead wires are immersed in rosin for 5 seconds and then immersed in solder bath of $270\pm 5^{\circ}\text{C}$ for $3\pm 0.5$ seconds.	90%min stripped wires shall be wet with solder.(except the edge of terminal)
2	Soldering Heat Resistance	Stripped wires are immersed up to 1.5mm from insulation in solder bath of $300\pm 5^{\circ}\text{C}$ for $\pm 0.5$ seconds or $260\pm 5^{\circ}\text{C}$ for $10\pm 1$ seconds.	No interference in operation
3	Terminal Strength Pulling	The force $10\pm 1$ seconds of 9.8N is applied to each terminal in axial direction	No damage and cutting off
4	Vibration	Buzzer shall be measured after being applied vibration of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.	The value of oscillation frequency and current consumption should be in $\pm 10\%$ compared with initial ones. The SPL should be in $\pm 10\text{dB}$ compared with initial one.
5	Drop test	Dropped naturally from 80cm height onto the surface of 40mm thick wooden board of 3 directions for 1times.	

## G. ENVIRONMENT TEST

NO	Item	Test Condition	Evaluation standard
1	High temp. test	After being placed in a chamber at 80°C for 96 hours	Being placed for 4 hours at 25°C, buzzer shall be measured. The value of oscillation frequency and current consumption should be in ±10% compared with initial one. The SPL should be in ±10dB compared with initial one.
2	Low temp. test	After being placed in a chamber at -30°C for 96 hours	
3	Humidity test	After being placed in a chamber at 40°C and 85±5% relative humidity for 96 hours	
4	Temp. cycle test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of:</p>  <p>The diagram illustrates a temperature cycle test profile. It starts at -20°C, ramps up to 25°C (0.5h), dwells at 25°C (0.5H), ramps up to 70°C (0.25h), dwells at 70°C (0.5H), ramps down to 25°C (0.5H), dwells at 25°C (0.5H), and finally ramps down to -20°C (0.25h). The total duration of one cycle is 3 hours.</p>	

## H. RELIABILITY TEST

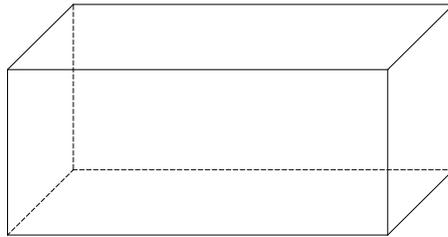
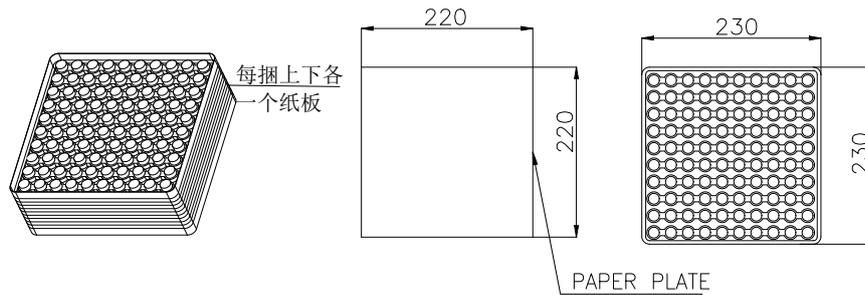
NO	Item	Test condition	Evaluation standard
1	Operating life test	<ol style="list-style-type: none"> <li>Continuous life test 96 hours continuous operation at 60°C with maximum rated voltage applied.</li> <li>Intermittent life test A duty cycle of 1 minute on, 5 minutes off, a minimum of 1000 times at room temp. (25±2°C) and maximum rated voltage applied</li> </ol>	Being placed for 4 hours at 25°C, buzzer shall be measured. The value of oscillation frequency and current consumption should be in ±10% compared with initial one. The SPL should be in ±10dB compared with initial one.

### TEST CONDITION

**Standard Test Condition :** a) Temperature : +5 ~ +35°C    b) Humidity : 45-85%    c) Pressure : 860-1060mbar

**Judgment Test Condition:** a) Temperature : +25±2°C    b) Humidity : 60-70%    c) Pressure : 860-1060mbar

## I. PACKING STANDARD



### NOTE :

100pcs per Layer  
15per bundle or 10per bundle  
total 5000pcs per box  
SIZE:490\*250\*430

## J. NOTE CAUTIONS

- a. Can not be applied DC bias voltage and a sounding body or pronunciation elements, otherwise its insulation resistance will decrease and the use of performance degradation.
- b. Can not be imposed over pronunciation body or pronunciation components allows the use of voltage range of the voltage on the.
- c. Please pay attention in welding process, don't let soldering flux invasion into the sound chamber , otherwise flux can cause defect conduction.
- d. Use should handle with care, avoiding direct pressure contact, or inadvertently falling down, to prevent the occurrence of fault, or the generation characteristics of abnormal movements.

## K. NOTICE ON PRODUCT STORAGE

- a. Please store the products in room where the temperature / humidity is stable. And avoid such places where there are large temperature changes. Please store the products under the following conditions :  
Temperature : -10 to +40 (degree C)  
Humidity : 15 to 85% R.H.
- b. Expire date (Shelf life) of the products is 6 months after delivery under the conditions of a sealed and an unopened package. Please use the products within 6 months after delivery.If you store the products for a long time (more than 6months), use carefully because the products may be degraded in the solder-ability and/or rusty. Please confirm solder-ability and characteristics for the products regularly.
- c. Please use the products immediately after the package is opened, because the characteristics may be reduced in quality, and/or be degraded in the solder-ability due to storage under the poor condition.

