



# 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-20220

客户料号

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

审核	秦皓	主办	唐俐雅 Jul.13,2018
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客户承认栏			
承认		拒收	

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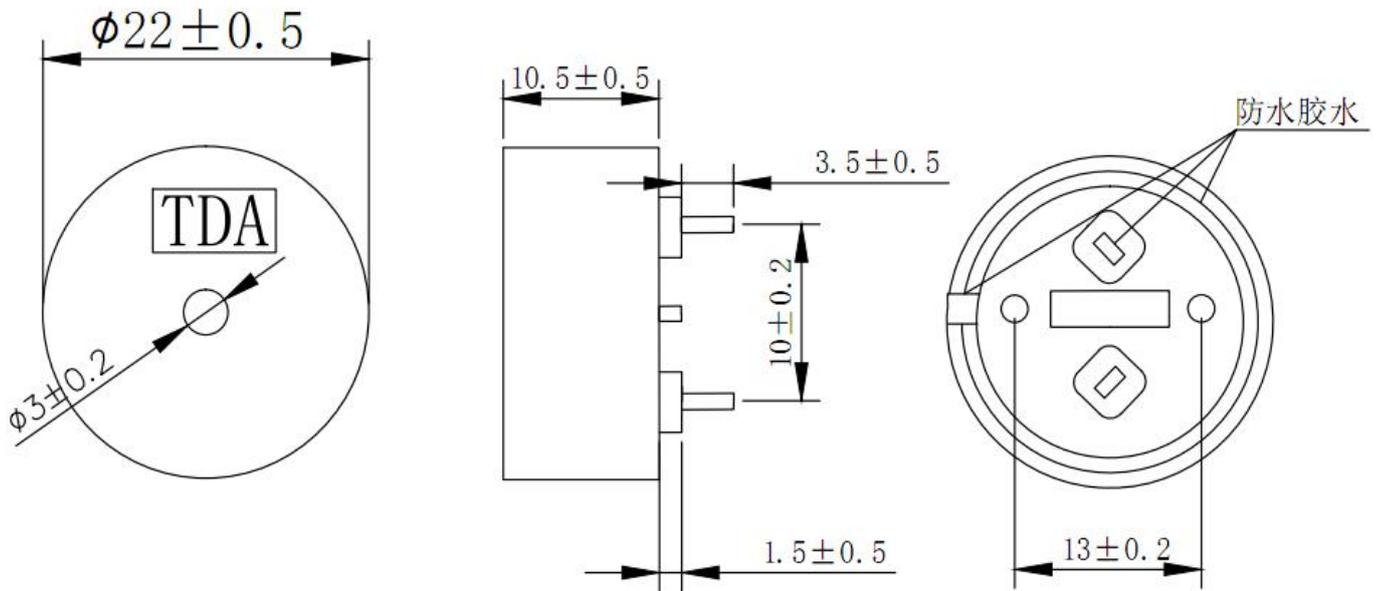
## A. SCOPE

This specification applies piezo buzzer, **TDA-20220**

## B. SPECIFICATION

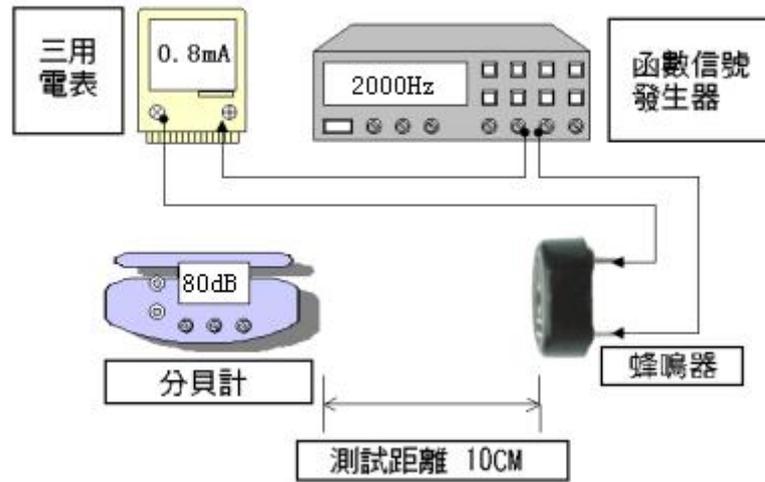
No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	Hz	2000	square wave
2	Operating Voltage	Vp-p	30 max	
3	Current Consumption	mA	MAX. 3	at 5Vp-p
4	Sound Pressure Level	dB	MIN. 80	at 10cm 5Vp-p 2000Hz
5	Operating Temperature	°C	-20 ~ +70	
6	Storage Temperature	°C	-30 ~ +80	
7	Dimension	mm	Ø22.0xH12	See appearance drawing
8	Weight (MAX)	gram	2	
9	Housing Material		PBT( Black )	
10	Leading Pin		Tin Plated Brass(Sn)	See appearance drawing
11	Environmental Protection Regulation		RoHS	

## C. APPEARANCE DRAWING

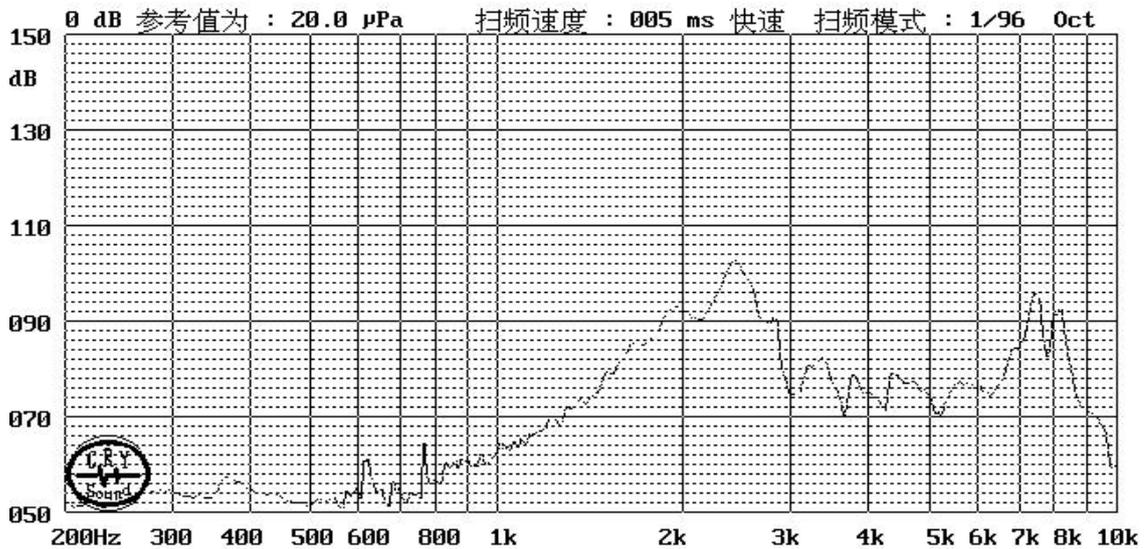


Unit:mm

## D. RECOMMEND DIRVING CIRCUIT



## E. TYPICAL FREQUENCY RESPONSE 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 $^{\circ}$ 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 $^{\circ}$ C for $\pm$ 0.5 seconds or 260 $\pm$ 5 $^{\circ}$ 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 $\pm$ 10dB compared with initial one.

## 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 diagram illustrates a temperature cycle test profile over a 3-hour period. It starts at -20°C with a 0.5-hour dwell. A ramp with a slope of 0.5H (0.5 hours per °C) leads to a 0.25-hour dwell at 25°C. Another ramp with a slope of 0.5H leads to a 0.5-hour dwell at 70°C. A final ramp with a slope of 0.5H leads to a 0.25-hour dwell at 25°C. The total cycle duration is 3 hours.</p>	

## H. RELIABILITY TEST

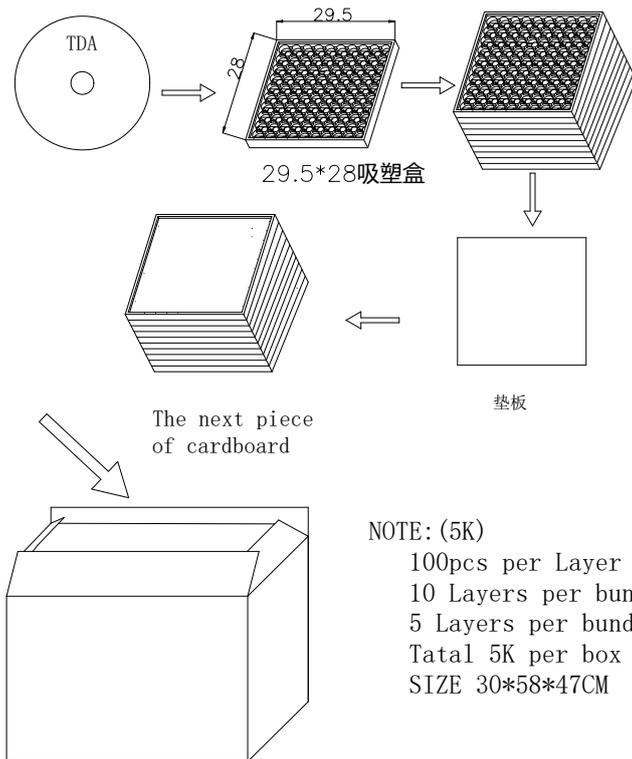
NO	Item	Test condition	Evaluation standard
1	Operating life test	<ol style="list-style-type: none"> <li>Continuous life test 96 hours continuous operation at 70°C with maximum rated voltage applied.</li> <li>Intermittent life test A duty cycle of 1 minute on, 5 minutes off, a minimum of 1000 times at 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



## 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 6 months), 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.

