



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 NAMED : \_\_\_\_\_

产品名称

COMMODITY : PIEZO BUZZER

产品型号

MODEL NO : TDA-2322OPL

客户料号

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

审核	秦皓	主办	唐俐雅 Sept.13,2018
----	----	----	------------------

客户承认栏			
承认		拒收	

常州昊翔电子有限公司

常州声翔电子有限公司

常州公司:

江苏省常州市戚区潞城镇富民路 286 号

TEL:86-519-8363089 13585451311

FAX:86-519-88353844

E-mail: [sales@tda-buzzer.com](mailto:sales@tda-buzzer.com) [sales2@tda-buzzer.com](mailto:sales2@tda-buzzer.com)

南通工厂:

江苏如皋市郭元镇工业园辰翔工业区

TEL:86-513-87910588 871919168

FAX:86-513-87915598

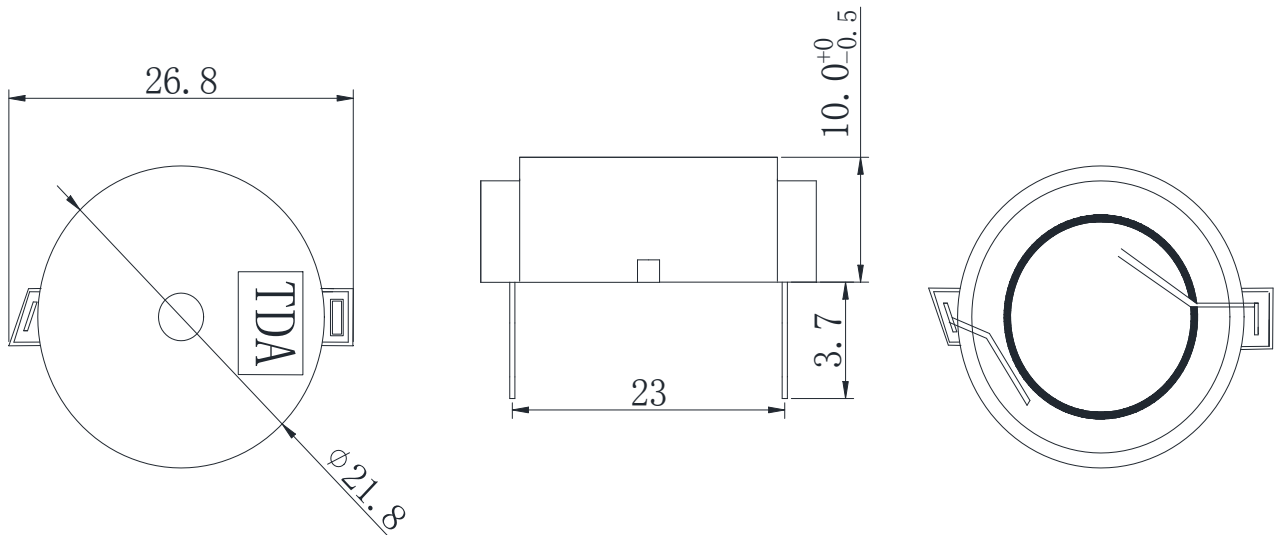
## A. SCOPE

This specification applies piezo buzzer, **TDA-23220PL**

## B. SPECIFICATION

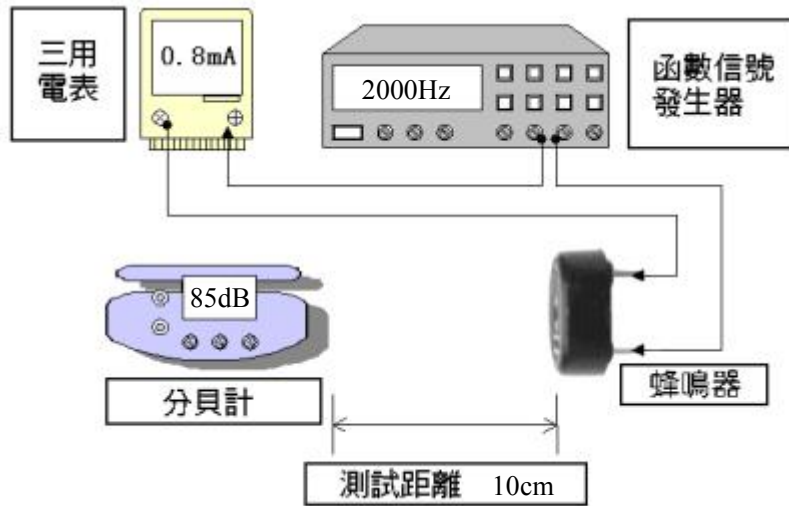
No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	Hz	2000	square wave
2	Operating Voltage	Vp-p	30 max	
3	Current Consumption	mA	MAX. 2	at 5Vp-p
4	Sound Pressure Level	dB	80~94	at 10cm 12Vp-p 2000Hz
5	Operating Temperature	°C	-30 ~ +70	
6	Storage Temperature	°C	-40 ~ +85	
7	Dimension	mm	Ø21.8xH10.0	See appearance drawing
8	Weight (MAX)	gram	3.2	
9	Housing Material		PPO( Black )	
10	Leading Pin		Tin Plated Brass(Sn)	See appearance drawing
11	Environmental Protection Regulation		RoHS	

## C. APPEARANCE DRAWING

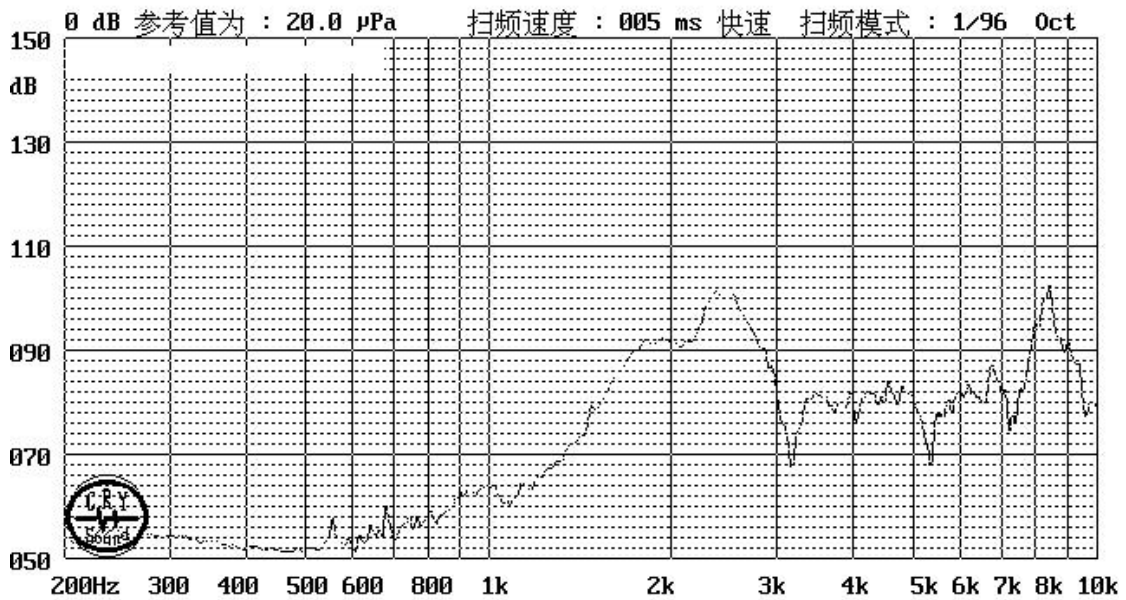


**Unit:mm Tolerance :  $\pm 0.5$ mm**

## D. RECOMMEND DIRIVING 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 $^{\circ}$ 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 5 $\pm$ 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.
5	Drop test	Dropped naturally from 75cm height onto the surface of 40mm thick wooden board of 3 directions for 1times.	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 +85°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 -40°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 -30°C for 0.5 hours (0.5H), then ramps up to 25°C for 0.25 hours (0.25H), then ramps up to 70°C for 0.5 hours (0.5H), then ramps down to 25°C for 0.5 hours (0.5H), and finally ramps down to -30°C for 0.25 hours (0.25H). The total duration of one cycle is 3 hours.</p>	

## H. RELIABILITY TEST

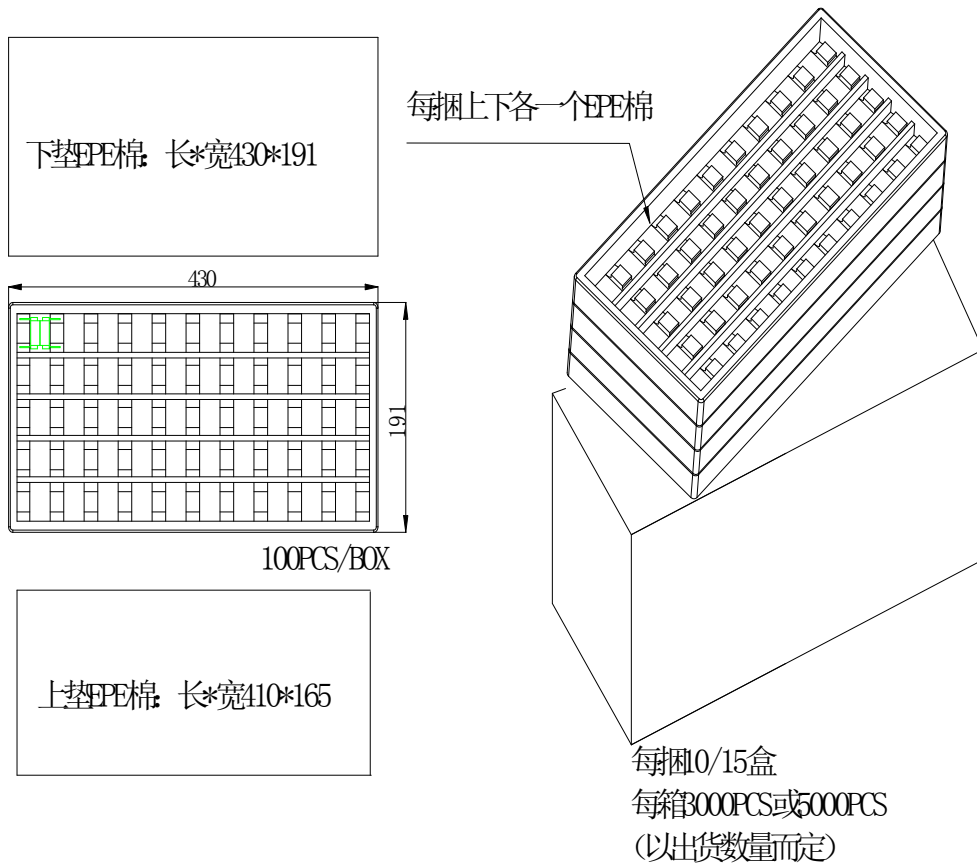
NO	Item	Test condition	Evaluation standard
1	Operating life test	<ol style="list-style-type: none"> <li>Continuous life test 96 hours continuous operation at 60°C with maximum rated voltage applied.</li> <li>Intermittent life test A duty cycle of 1 minute on, 5 minutes off, a minimum of 1000 times at 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



## J. NOTE CAUTIONS

- 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.
- Can not be imposed over pronunciation body or pronunciation components allows the use of voltage range of the voltage on the.
- Please pay attention in welding process, don't let soldering flux invasion into the sound chamber , otherwise flux can cause defect conduction.
- 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

- 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.
- 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

