请承认书

Version No.：V2.1

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-20240**

客 户 料 号

PART NO ：_____

审 核	秦皓	主 办	唐俐雅 Aug.14,2018

客 户 承 认 栏			
承 认		拒 收	

常 州 昊 翔 电 子 有 限 公 司

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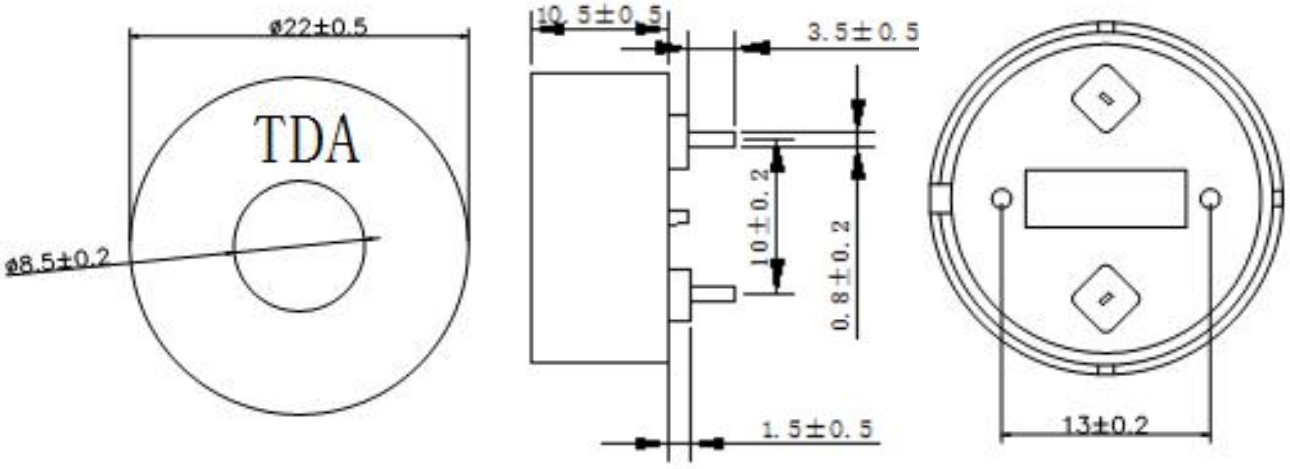
A. SCOPE

This specification applies piezo buzzer, **TDA-20240**

B. SPECIFICATION

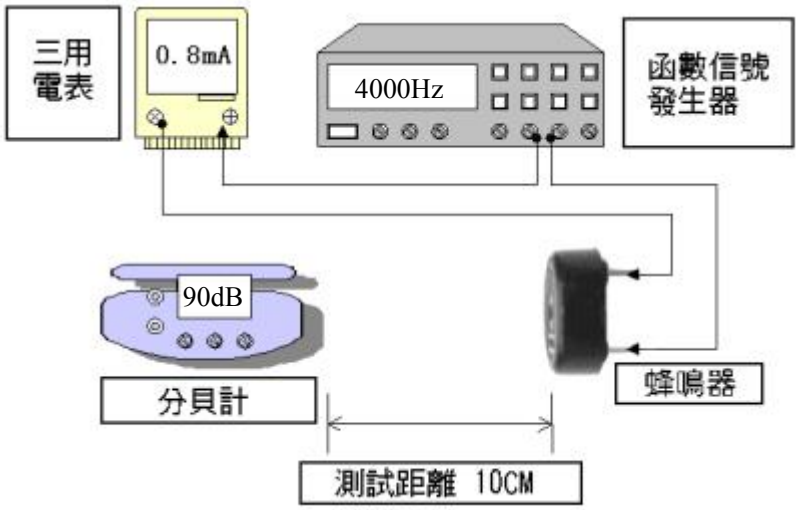
No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	Hz	4000	square wave
2	Operating Voltage	Vp-p	30 max	
3	Current Consumption	mA	MAX. 3	at 3Vp-p
4	Sound Pressure Level	dB	MIN. 90	at 10cm 3Vp-p 4000Hz
5	Operating Temperature	℃	-20 ~ +70	
6	Storage Temperature	℃	-30 ~ +80	
7	Dimension	mm	Ø22.0xH12	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

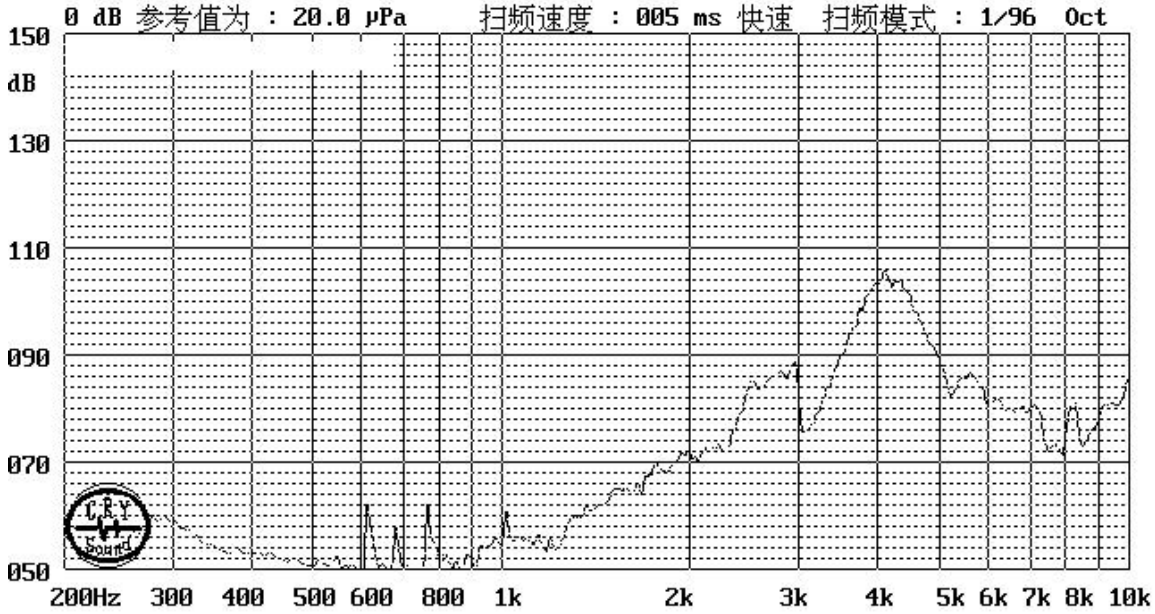


Unit:mm Tolerance : ±0.5mm

D. RECOMMEND DIRVING CIRCUIT



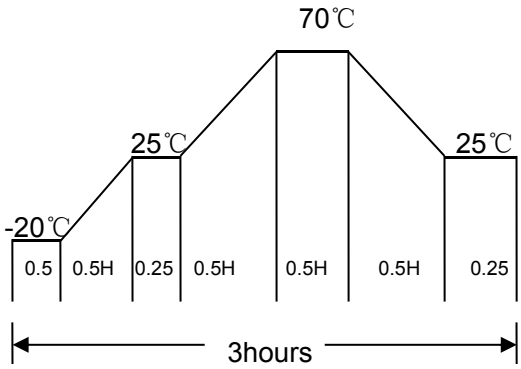
E.FREQUENCY CURVE



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±5℃for 3±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±5℃for ±0.5 seconds or 260±5℃ for 10±1 seconds.	No interference in operation
3	Terminal Strength Pulling	The force 10±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±10%compared with initial ones. The SPL should be in ±10dB 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 at80℃ for 96 hours	Being placed for 4 hours at 25℃,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℃for 96 hours	
3	Humidity test	After being placed in a chamber at 40℃ and 85±5% relative humidity for 96hours	
4	Temp. cycle test	The part shall be subjected to 5 cycles. One cycle shall be consist of:  	

H. RELIABILTY TEST

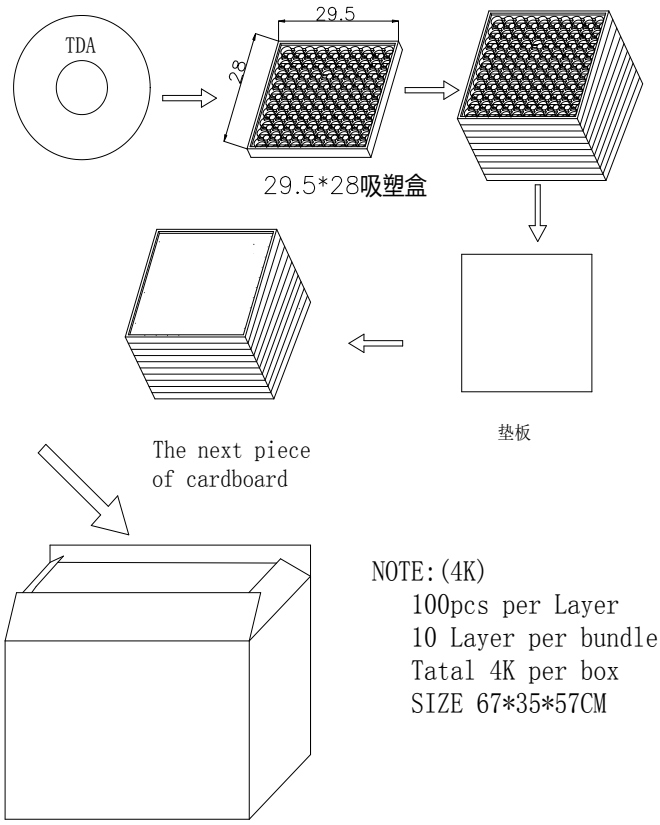
NO	Item	Test condition	Evaluation standard
1	Operating life test	1. Continuous life test 96 hours continuous operation at 70℃ with maximum rated voltage applied. 2. Intermittent life test A duty cycle of 1 minute on, 5mintes off, a minimum of 1000 times at room temp.(25±2℃) and maximum rated voltage applied	Being placed for 4 hours at 25℃,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℃ b) Humidity : 45-85% c) Pressure : 860-1060mbar

Judgment Test Condition: a) Temperature : +25±2℃ 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 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.

L. REVISION

No.	DATE	DESCRIPTION	REMARK	VERSION
1	Jul.14,2017	Initial condition	TDA-20240	V1.0
2	Aug.14,2018	Version upgrade	TDA-20240	V2.0
3	Mar.29,2020	Increase the stitch diameter	TDA-20240	V2.1