



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 Tweeter

产品型号

MODEL NO : TDA-C4112-20-C100

客户料号

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

审核	秦皓	主办	潘莲 Oct.09,2021
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客户承认栏			
承认		拒收	

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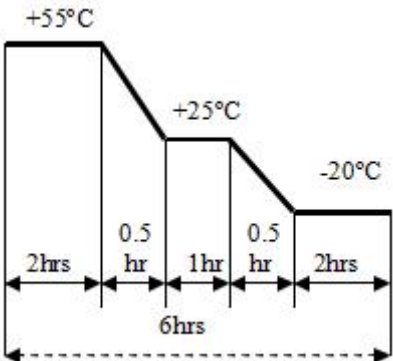
## A. SCOPE

This specification applies atomization piece, **TDA-C4112-20-C100**

## B. SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Operating Volt	Vrms	MAX. 10	
2	Rated Volt	Vrms	2.83	
3	Electrostatic capacity	pF	100,000±30%	At 100Hz
4	Resonant Frequency Range	KHz	2.5-50	
5	Operating Frequency	KHz	20±5	
6	Sound pressure level	dB	MIN. 90	at 2.83Vrms sine wave / 30cm
7	Operating temp	°C	-20 ~ +55	
8	Storage temp	°C	-30 ~ +60	
9	Dimension	mm	Φ41.0 x H12.0	See appearance drawing
10	Weight (MAX)	gram	5.0	
11	Waterproofing grade		IPX-4	
12	Housing Materail		ABS	
13	Paper Cone		mylar cone	
14	Environmental Protection Regulation		RoHS	

## C. ENVIRONMENTAL TEST

No.	Item	Test conditions	Evaluation standard
1	High temp. Test	After being placed in a chamber at +55°C for 24 hours	
2	Low temp. Test	After being placed in a chamber at -20°C for 24 hours.	
3	Humidity test	After being placed in a chamber at +40°C and 90±5%RH relative humidity for 24 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 with a 2-hour dwell at +55°C. This is followed by a 0.5-hour ramp down to +25°C, where it dwells for 1 hour. Another 0.5-hour ramp down leads to a 2-hour dwell at -20°C. A dashed line at the bottom indicates the total duration of one cycle is 6 hours.</p>	
			Being placed for 6 hours at +25°C, speaker shall be measured. The SPL should be in ±10dB compared with initial one.

## D. MECHANICAL CHARACTERISTICS

No.	Item	Test condition	Evaluation standard
1	Terminal strength	Applied 1kg load to the terminal for 30 sec	No damage and cutting off.
2	Vibration Test	Speaker shall be measured after being applied vibration of amplitude of 1.52mm with 10 to 55Hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.	Being placed for 6 hours at +25°C, speaker shall be measured. The SPL should be in $\pm 10$ dB compared with initial one.
3	Drop Test	Drop the speakers contained in normal box onto the board 40mm thick 10 times from the height of 75cm	

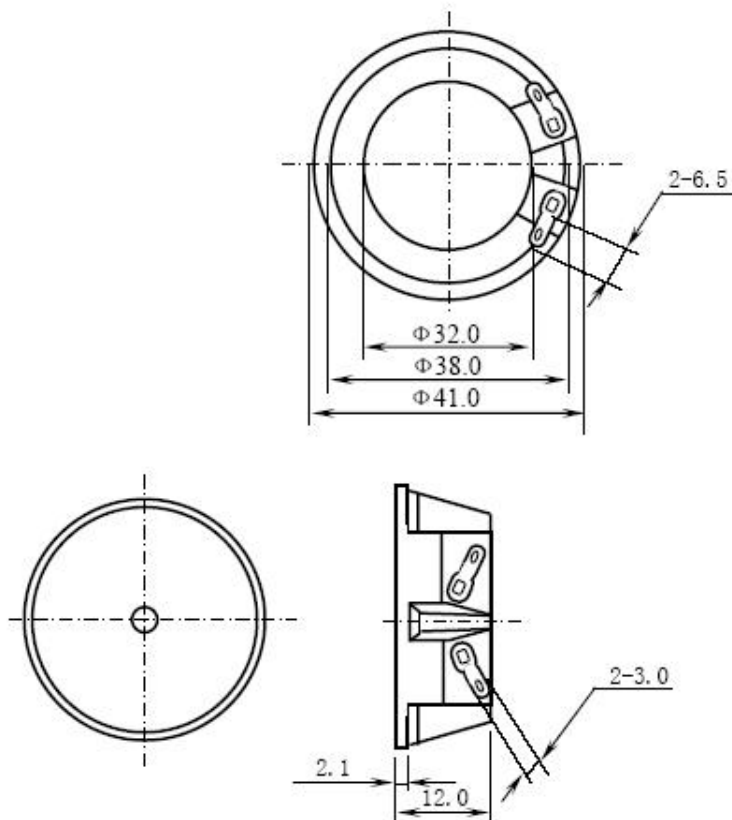
## E. RELIABILITY TEST

No.	Item	Test conditions	Evaluation standard
1	Operating life test	24 hours continuous operation with rated voltage applied.	Being placed for 6 hours at +25°C, speaker shall be measured. The SPL should be in $\pm 10$ dB compared with initial one.

### TEST CONDITION.

Standard Test Condition : a) Temperature : +5 ~ +35°C      b) Humidity : 45-85%      c) Pressure : 860-1060mbar  
 Judgement Test Condition a) Temperature : +25 $\pm$ 2°C      b) Humidity : 60-70%      c) Pressure : 860-1060mbar

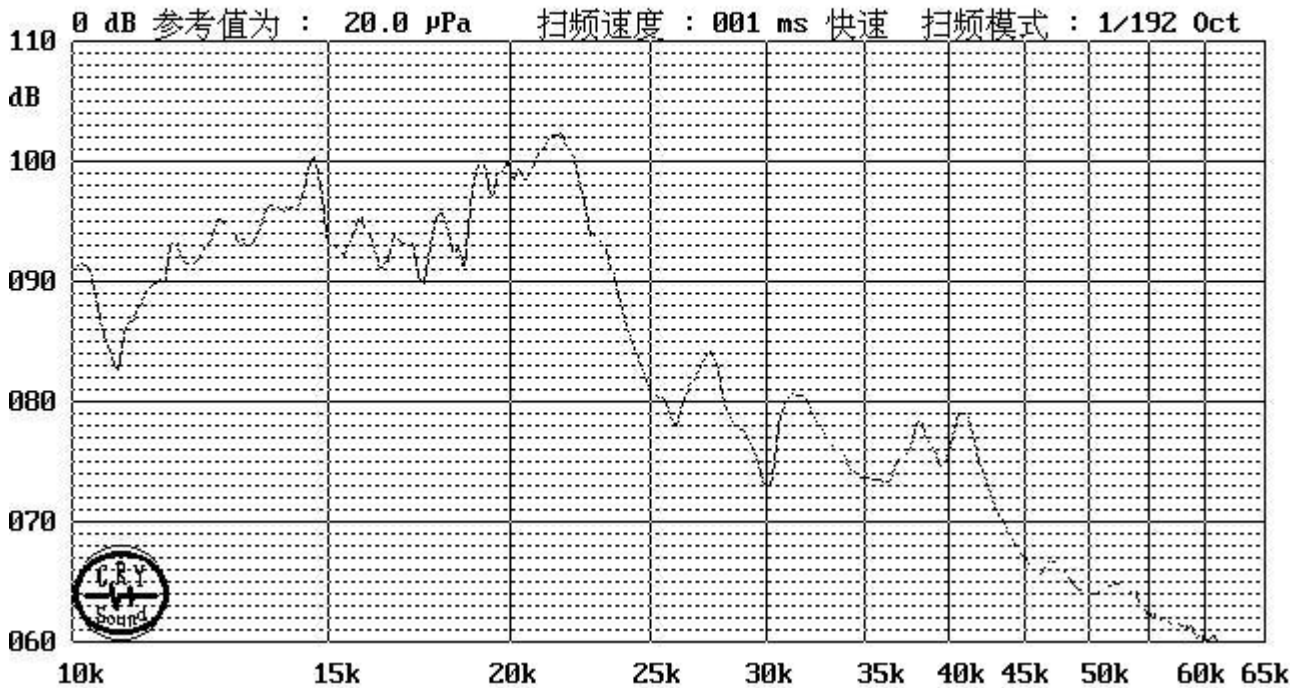
## F. APPEARANCE DRAWING



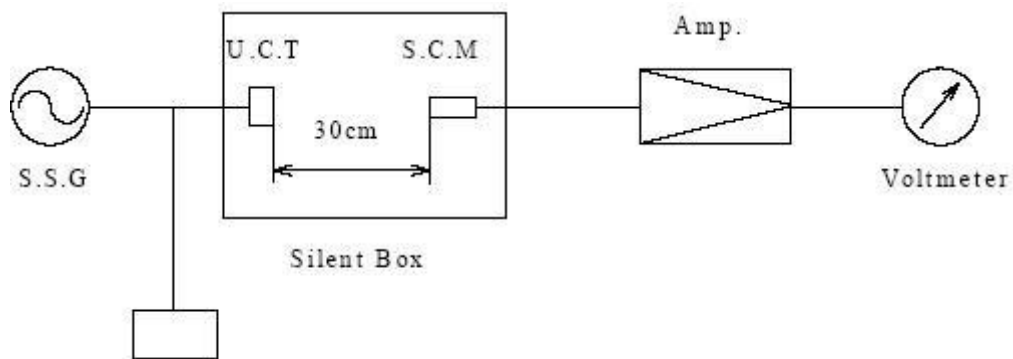
Unit:mm Tolerance :  $\pm 0.5$ mm

## G. TYPICAL FREQUENCY RESPONSE CURVE

型号: \_\_\_\_\_ ⇒ 发送 T: \_\_\_\_\_ 接收 R: \_\_\_\_\_ 阻抗 Z: \_\_\_\_\_  
 电压: 2830 mV Fc= 25029Hz 000.57dB Fc= 25029Hz \_\_\_\_\_ dB Fv= \_\_\_\_\_ Hz \_\_\_\_\_ Ω  
 正弦波 Fo= 21674Hz 102.43dB Fo= \_\_\_\_\_ Hz \_\_\_\_\_ dB Fo= \_\_\_\_\_ Hz \_\_\_\_\_ Ω



## H. MEASUREMENT CIRCUIT



Freq. Counter

S.S.G : Sine wave Signal Generator

U.C.T : Ultrasonic Ceramic Transducer

S.C.M : Standard Condenser Microphone (Brüel & Kjær 4135)

Amp. : Amplifier (Brüel & Kjær 2610)

Input Vol. : 2.83Vr.m.s

