



SPECIFICATION

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 : SMD Speaker

产品型号

MODEL NO : TDA-M2020KC8E45W05

客户料号

PART NO : _____

审核	秦皓	主办	潘莲 Aug.27,2021
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客户承认栏			
承认		拒收	

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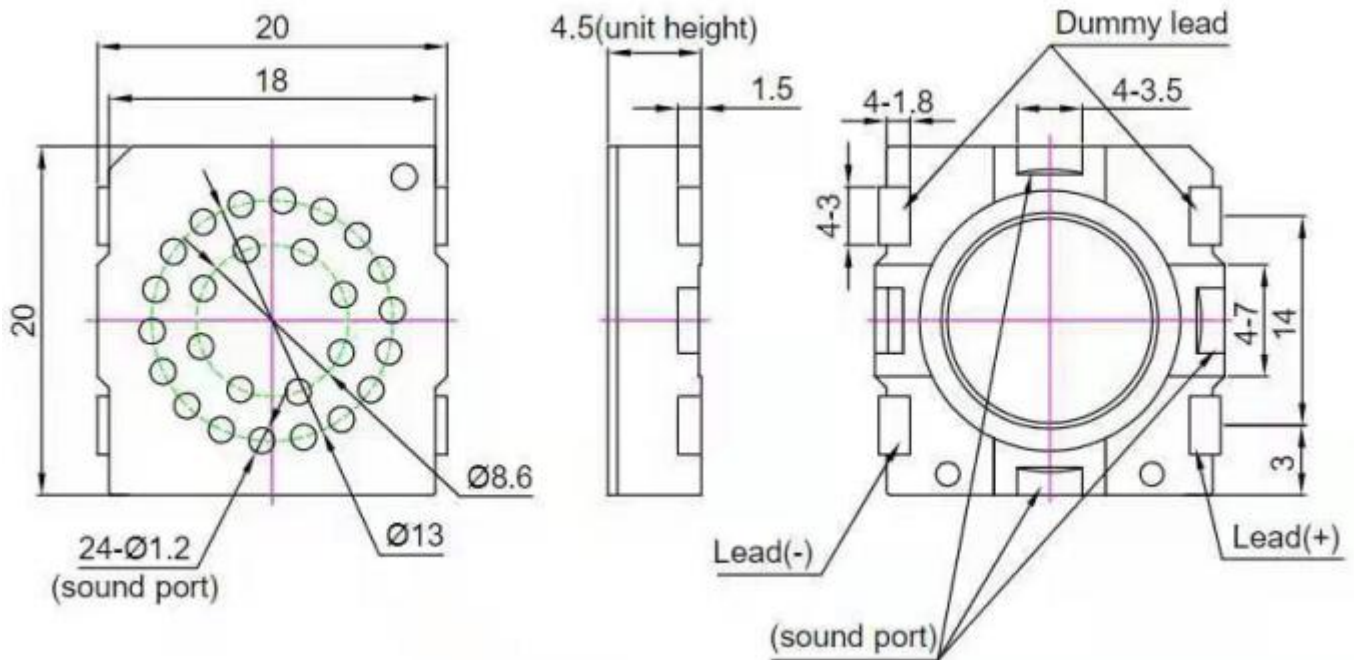
A. MODEL: TDA-M2020KC8E45W05

B. SPECIFICATION

Test condition: Temperature: 15~35°C Related Humidity:25~75% (GB/T9396-1996)

No.	Item	Specification	Condition
1	Dimension	20 x 20 x H4.5mm	
2	Weight (MAX)	1.5g	
3	Impedance	8±20%Ω	At 2KHz, 0.5V
4	Output Sound Pressure Level	93±3dB(0.1M,0.5W)	Average at 0.8~3kHz
5	Response Frequency	800±100Hz	
6	Power Rating	Normal: 0.5Watts Maximum: 1.0 Watts	Sine Wave
7	THD	800Hz<10%,800-1.5KHz slope from 10%,1.5K-8KHz<10%	
8	Operating temperature	-40 ~ +85°C	
9	Storage Temperature	-40 ~ +105°C	
10	Abnormal Sound test	Must be normal at sine wave 2.0 Vrms	
11	Polarity	Positive voltage to (+),Diaphragm moves forward	
12	RoHS	The Speaker is RoHS compliant.	

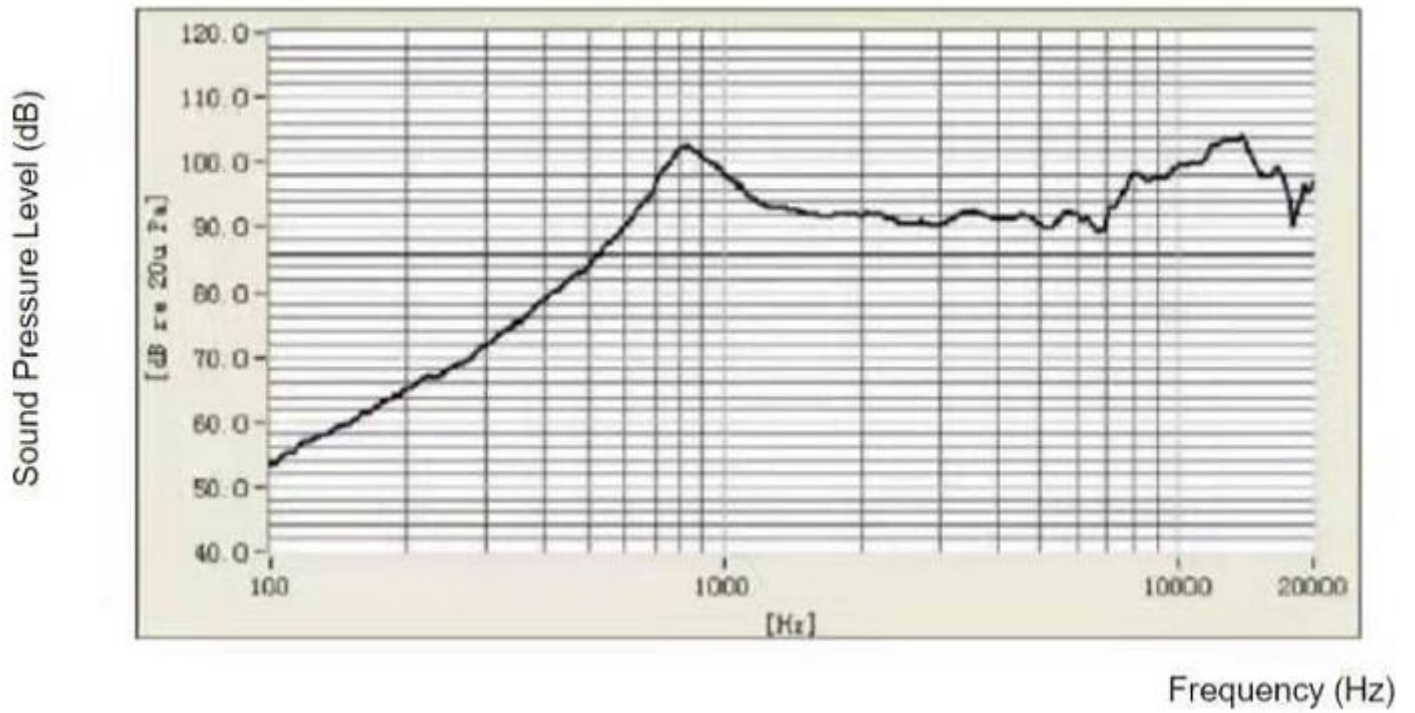
C. APPEARANCE DRAWING



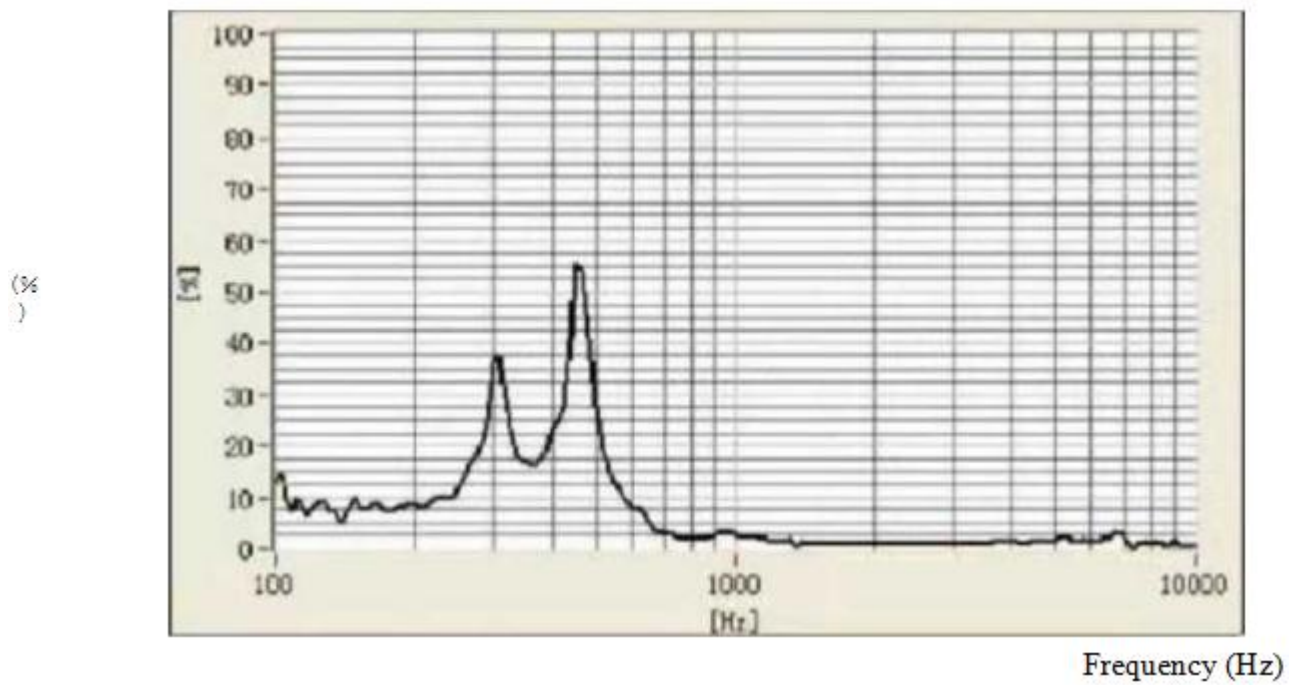
Unit: mm Tolerance : ± 0.5mm

D.FREQUENCY RESPONSE

(1) frequency curve



(2) distortion curve



E. MEASURING METHOD(SPEAKER MODE)

E-1. Test Condition

(a) STANDARD:

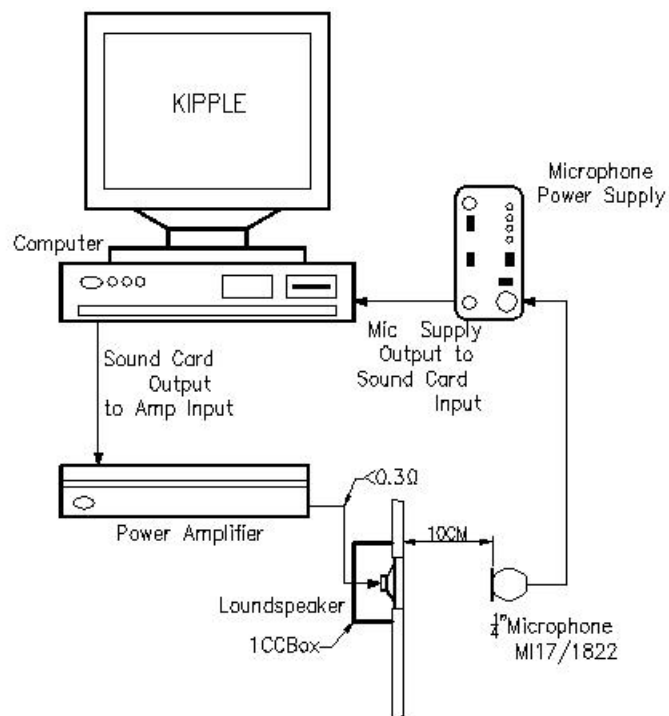
Temperature : 17 ~ 25°C, Relative humidity : 45% ~ 80%,
Atmospheric pressure : 860mbar to 1060mbar

(b) JUDGEMENT:

Temperature : 20±3°C, Relative humidity : 60% ~ 70%,
Atmospheric pressure : 860mbar to 1060mbar

E-2. Standard Test Fixture

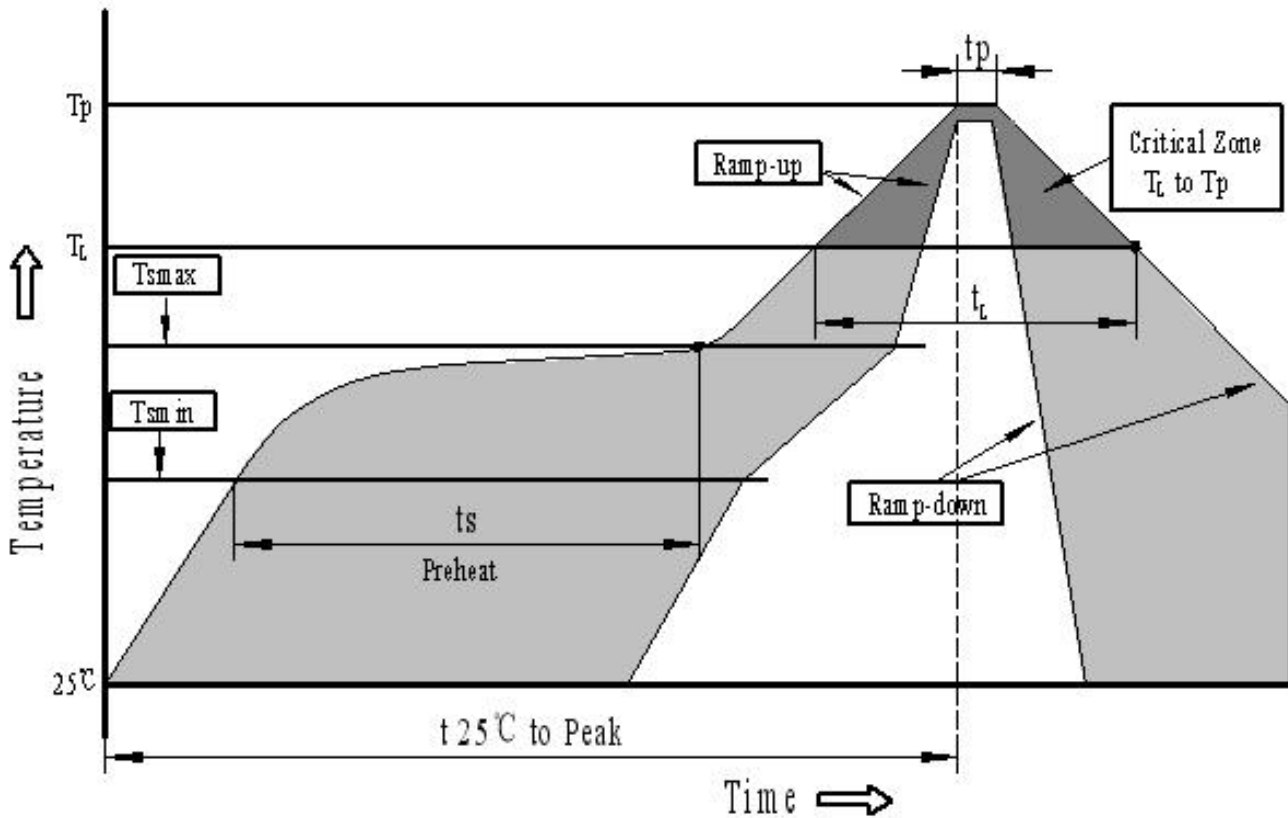
1. Input Power : 0.5W(2.0 V)
2. Zero Level : -dB
3. Mode : SPEAKER
4. potentiometer Range : 50dB
5. Sweep Time : 0.5sec



F. RELIABILITY TEST

No.	Item	Condition	Evaluation standard
1	High temp. storage life	The part shall be capable of Withstanding a storage temperature is +105°C for 120 hours	1. All these tests above should be measured after leaving normal temperature for 2hrs.
2	Low temp storage life	The part shall be capable of Withstanding a storage temperature is -40°C for 120 hours	
3	Temp. Cycle	Temperature -40° C/+85° C Temperature Change 1±2/min Duration at +85° C 2h(each cycle) Duration at -40° C 2h(each cycle) Duration for one cycle 8h Cycle 10	2. After the test the part shall meet specifications without any degradation in appearance and performance except SPL. SPL difference at 0.8- 3.0kHz shall be within ± 3dB from initial value after test.
4	Drop Test	Height 1.0m Drop face Free drop on concrete floor Time 3 (X,Y,Z direction 1 time each, total 3 times)	

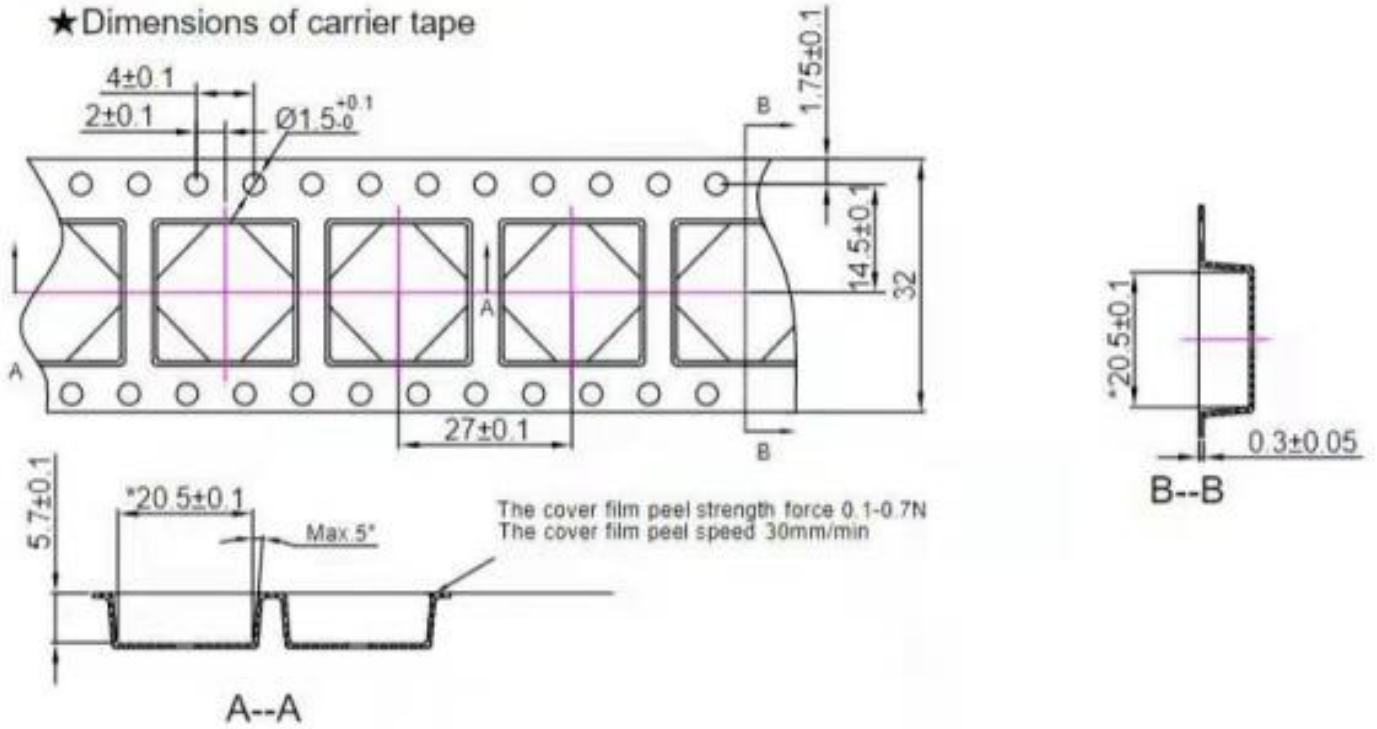
G. RECOMMENDED TEMP. ROFILE FOR REFLOW OVEN(Fig.1)



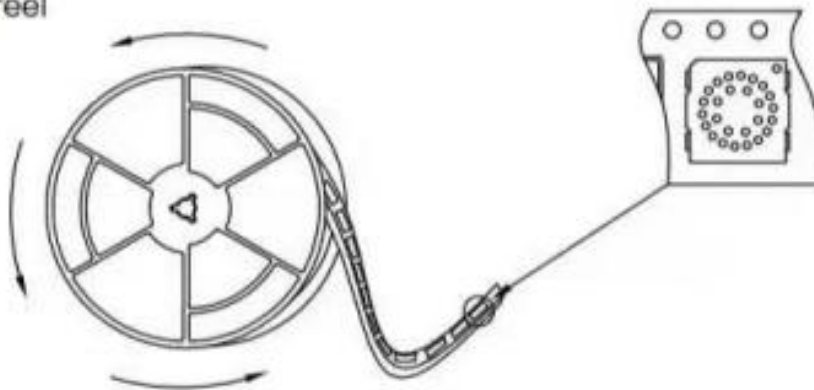
Profile Feature	Pb-Free Assembly
Average ramp-up rate(T_L to T_p)	3°C/second max.
Preheat	
-Temperature Min.(T_{smin})	150°C
-Temperature Min.(T_{smax})	200°C
-Temperature Min.(t_s)	60~180 seconds
T_{smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature(T_L)	217°C
-Time(T_L)	60~150 seconds
Peak temperature(T_p)	245°C+0/-5°C
Time within 5°C of actual Peak temperature (t_p)	6 seconds max.
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

H. PACKING STANDARD

★Dimensions of carrier tape



★Direction of reel



★Dimensions of reel

