REACH RoHS 2011/65EU

SPECIFICATION FOR APPROVAL

Piezo Transducer

Part Number	OWPB-121230S-40-3.6
Note	This item was compliance with the following requirements: 1. RoHS directive 2. REACH
Customer P/N	

Ole Wolff	Signature / Date	Prepared	Checked	Approved
		吴义涛 2018.09.21	Davy Liu 2018.09.21	Ryan Li 2018.09.21

Customer	Signature / Date	Confirmation

REVISION NOTES:

Date	Rev.	Description of Revision
2012.03.21	00	Initial Release
2015.11.09	01	Add Life Time: continuous working 1000hrs, change the carton size from 41.5×39×37.5cm to 42×35.5×36.5cm.
2018.06.14	02	Add marking in drawing, Use recommended within 6 months in page 2.
2018.09.21	03	High temp. correct to 80±2℃ in Temperature cycling, compliance with Rev01

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1. SCOPE

THIS SPECIFICATION IS APPLIED TO OLE WOLFF SMD PIEZO TRANSDUCER UNIT OF MODEL: OWPB-121230S-40-3.6

2. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE: -20℃ ~ +70℃

STORAGE TEMPERATUR RANGE: -30℃ ~ +80℃

3. MECHANICAL LAYOUT & DIMENSIONS

DIMENSIONS: SHOWN IN FIGURE 4.

WEIGHT：0.3g

4. ELECTRICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION
1	RATED VOLTAGE	3.6Vp-p
2	MAX INPUT VOLTAGE	25 Vp-p
3	RESONANT FREQUENCY	4000+/-500Hz
4	CAPACITANCE AT 120HZ	16000±30%pF
5	*RATED CURRENT	≤3mA
6	* SOUND OUTPUT AT 10CM	≥75dB
7	HOUSING MATERIAL	LCP
We recommend usage in 6months,If 12 months old we recommend baking at 35 Deg C for 48 Hours.		

*Value applying at rated voltage , 4.0KHz, 1/2 duty , square wave

Test Basic State: Temp(20±2℃),Humidity(40~70%RH),Air pressure(860~1060hPa).

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5. RELIABILITY TEST

- **After Test**
  After being placed for 2 to 4hrs at room temperature, part shall be tested. The value of current consumption should be in ±10% compared with initial ones. The SPL should be in ±10dB compared with initial one.

5.1 High temperature Test

Temperature: +80±2℃
Duration: 120HRS

5.2 Low temperature Test

Temperature: -30±2℃
Duration: 120HRS

5.3 Humidity Test

Temperature: +40±2℃
Humidity: 90~95%RH
Duration: 120HRS

5.4 Temperature cycling Test

Temperature:	-30±2℃	20±5℃	+80±2℃	20±5℃
Duration:	30min	15min	30min	15min

Cycle: 5 cycles

5.5 Vibration Test

power: 10Hz（sweep time:1 minute）
Amplitude: 1.52mm(9.3g).
Direction: 2 hours per plane in each three mutually perpendicular planes for a total time of 6 hours.

5.6 Shock Test

Sounder shall be measured after being applied shock (980m/s²) for each three mutually perpendicular directions to each of 3 times by half sine wave.

5.7 DROP TEST

Height : 700mm
Drop Surface : 10mm thick wooden board
Direction : 3 times

5.8 Lead pull

The part shall be pushed with a force of 9.8N for 10±1 seconds behind the part.

After the test part shall meet specifications without any degradation in appearance and performance.

5.9 Recommended temp. Profile for Reflow Oven

Shown in Fig.1

Warranty: For a period of one year from date of manufacture under normal operations.
Life Time: continuous working 1000hrs

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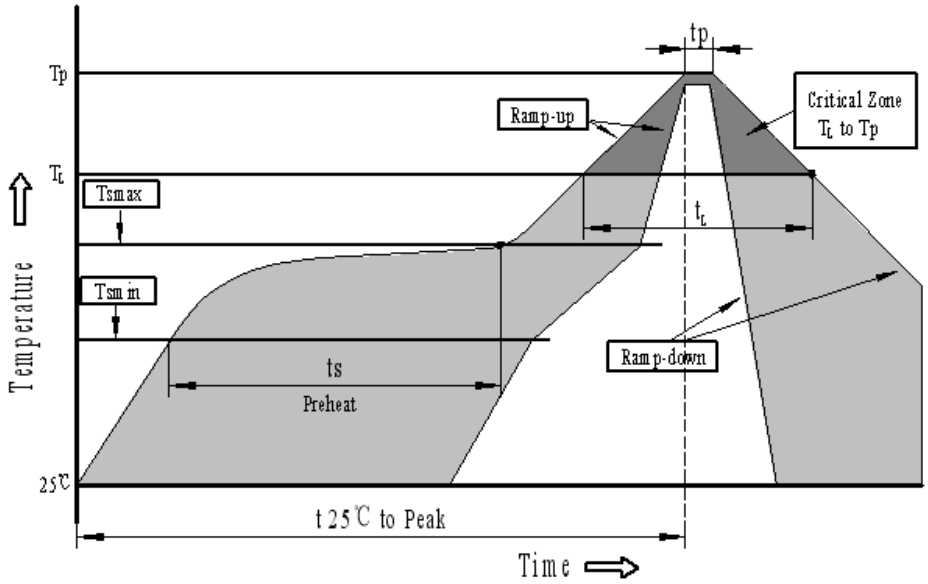
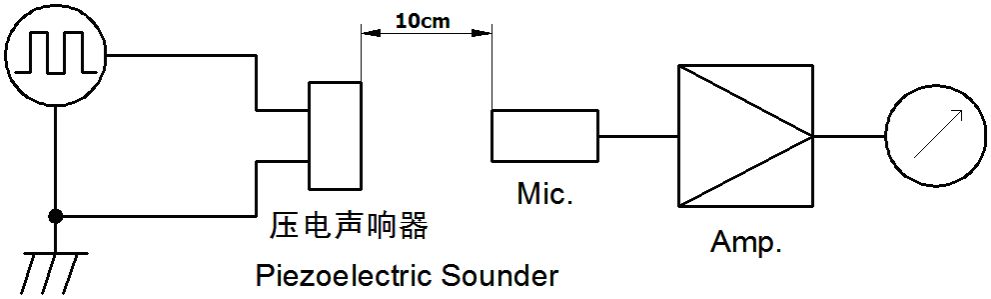
6. RECOMMENDED TEMP. PROFILE FOR REFLOW OVEN (Figure 1)



Profile Feature	Pb-Free Assembly
Average ramp-up rate(T_L to Tp)	3℃/second max.
Preheat	
-Temperature Min.(Ts_{min})	150℃
-Temperature Min.(Ts_{max})	200℃
-Temperature Min.(ts)	60～180 seconds
Ts_{max} to T_L	
-Ramp-up Rate	3℃/second max.
Time maintained above:	
- Temperature(T_L)	217℃
-Time(T_L)	60～150 seconds
Peak temperature(Tp)	245℃+0/-5℃
Time within 5℃of actual Peak temperature (tp)	6 seconds max.
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

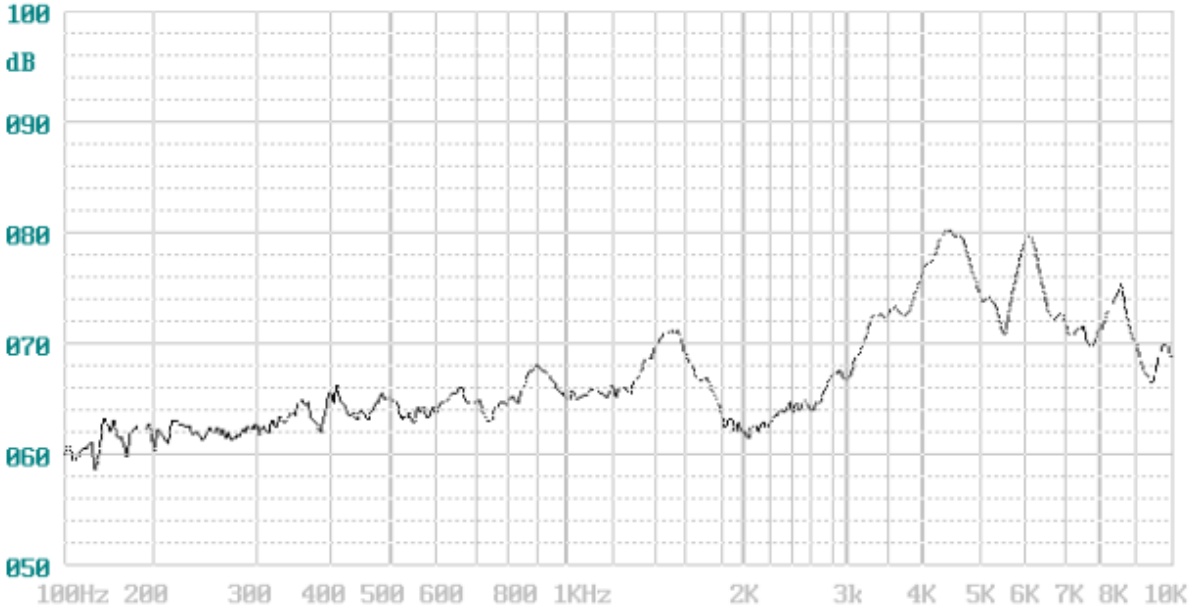
7. TEST METHOD (Figure 2)



MIC: ND10 普通声级计或等同品
MIC: ND10 Sound Meter or equivalent

信号发生器: DF1641D或等同品
Signal Generator: DF1641D or equivalent

8. FREQUENCY RESPONSE (Figure 3)



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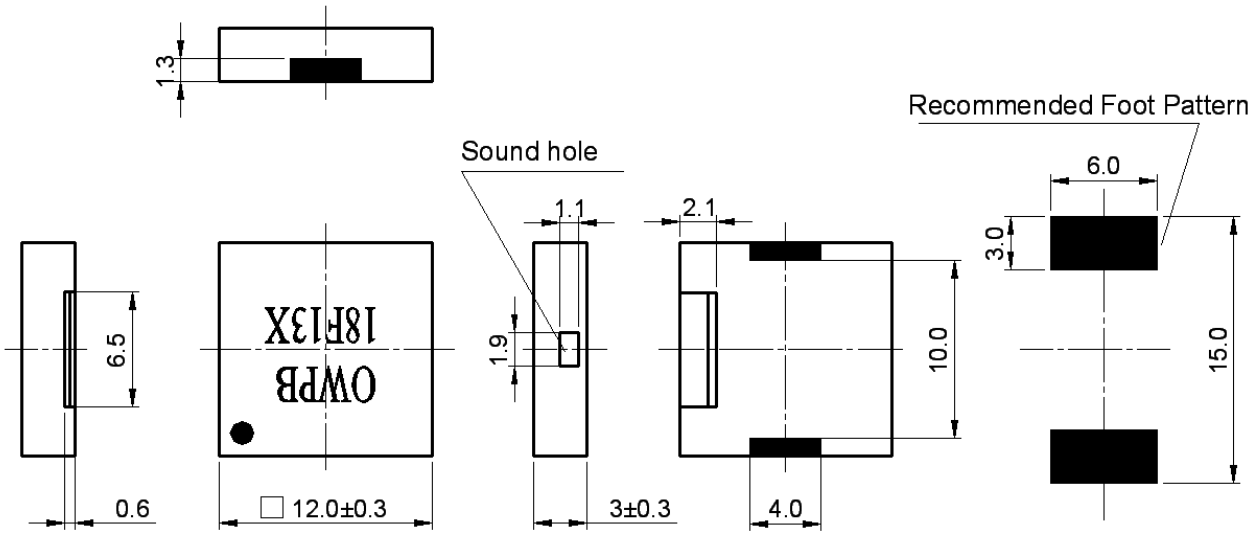
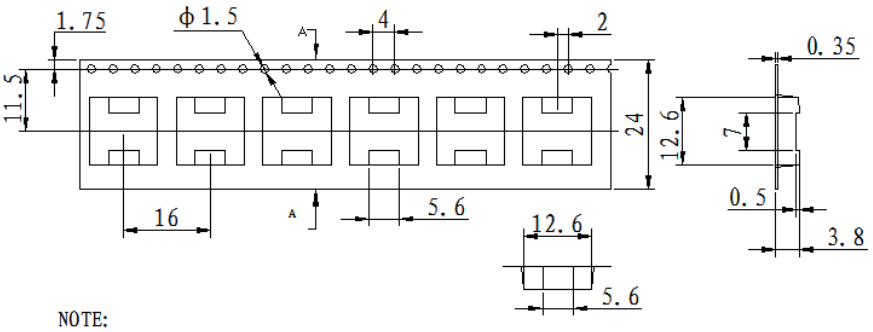
9. DIMENSIONS (Figure 4) Unit: mm

Tolerance: ±0.5mm Except Specified

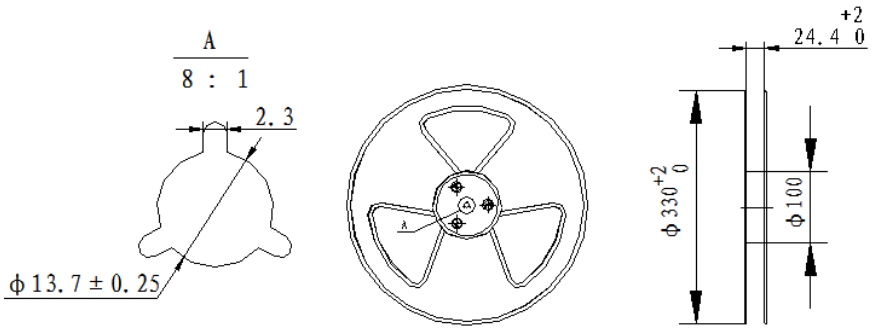


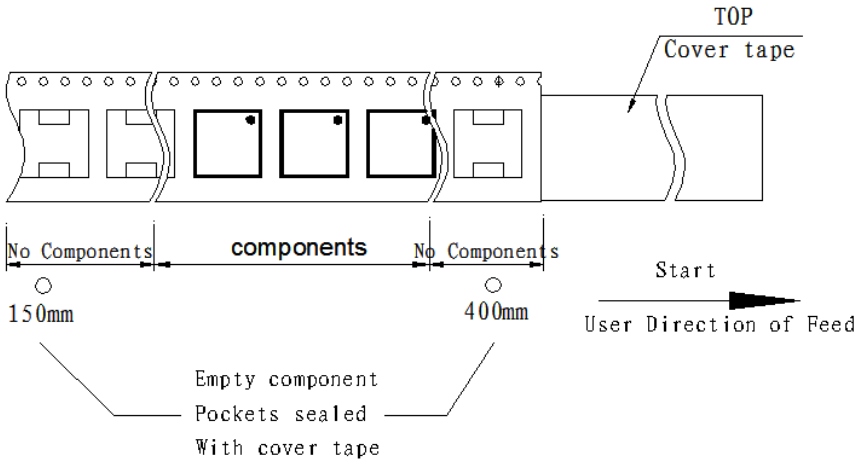
10. PACKAGE INFORMATION (Figure 5)



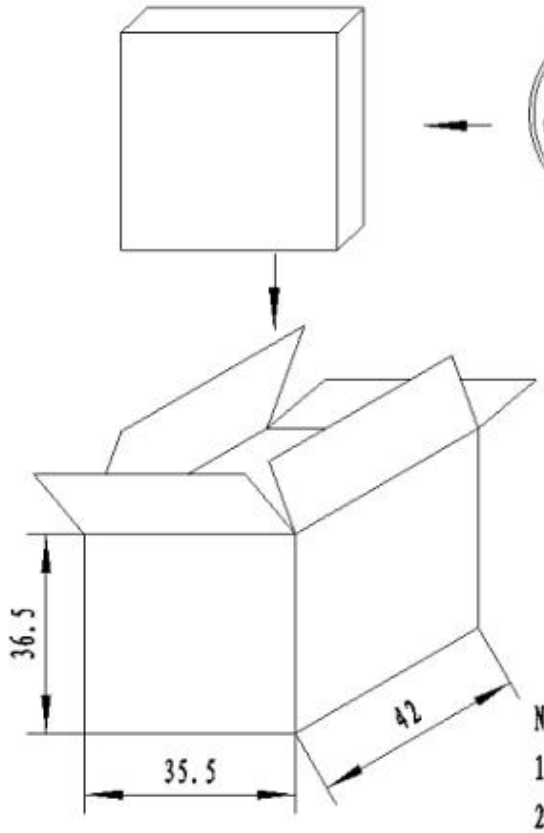
NOTE:

1. 10 sprocket hole pitch cumulative tolerance +/−0.2mm.
2. All dimensions meet EIA-481-D requirements.
3. Thickness: 0.35+/−0.05mm.
4. Component loaded per 13"reel: 1000pcs.





11. PACKAGE INFORMATION (Figure 6)



NOTES:

1. 1000 PCS per box
2. Total 10 boxes per carton
3. Total 10000 PCS carton
4. volume: 42 × 35.5 × 36.5cm