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SPECIFICATION FOR APPROVAL

Piezo Transducer

Part Number	OWPB-181880S-20-12
Note	This item was compliance with the following requirements: 1. RoHS directive 2. REACH
Customer P/N	

Ole Wolff	Signature / Date	Prepared	Checked	Approved
		Wuyitao 2023.04.06		

Customer	Signature / Date	Confirmation		

REVISION NOTES:

Date	Rev.	Description of Revision
20230406	00	Initial Release

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 4180 Soroe Denmark TEL: +45 57833830 FAX: +45 57820019	OLE WOLFF ELECTRONICS INC. 1525 McCarthy Blvd, Suite 1093 Milpitas, Ca 95035 USA TEL: +1 408 888 8413	OLEWOLFF ELEKTRONIK GmbH Schulstrasse 15A. DE-25451 Quickborn, Germany TEL: +49 (0) 4106 765900 FAX: +49 (0) 4106 627297	OLEWOLFF ELECTRONICS 3 Bedford Street, Woburn, Bedfordshire MK17 9QB, ENGLAND TEL: +44 (0) 1525 290755 FAX: +44 (0) 1525 290855	OLE WOLFF ELEKTRONIK Yliopistonkatu 26 (P.O.BOX 257) FI-40101 Jyväskylä Finland TEL: +358 14 338 3050 FAX: +358 14 338 3059	OLE WOLFF (ASIA) LTD. Unit B, 19/F., Bold Win Ind. Bldg., No. 16-18 Wah Sing St., Kwai Chung, N.T., H.K. TEL: +852 2424 3274 FAX: +852 2424 2219	OLE WOLFF LTD. Unit 7A08, Block 2, Elite Building, Nanshan Avenue, Nanshan District, Shenzhen, PRC. TEL: +86 755 82612542 TEL: +86 755 26406156
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1. SCOPE

THIS SPECIFICATION IS APPLIED TO OLE WOLFF PIEZO TRANSDUCER UNIT OF MODEL: OWPB-181880S-20-12

2. GENERAL REQUIREMENTS

OPERATING TEMPERATURE RANGE: -40°C ~ +85°C

STORAGE TEMPERATURE RANGE: -40°C ~ +85°C

3. MECHANICAL LAYOUT & DIMENSIONS

DIMENSIONS: SHOWN IN FIGURE 4.

WEIGHT: 1.1g

4. ELECTRICAL CHARACTERISTICS

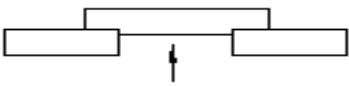
NO.	ITEM	SPECIFICATION
1	RATED VOLTAGE	12Vp-p
2	MAX INPUT VOLTAGE	25 Vp-p
3	RESONANT FREQUENCY	2000+/-500Hz
4	CAPACITANCE AT 120HZ	35000 ± 30%pF
5	*RATED CURRENT	≤15mA
6	*Sound Output at 10cm(dB)	≥90
		100 (typ.)
7	HOUSING MATERIAL	LCP

*Applying rated voltage (Resonant frequency, Square wave)

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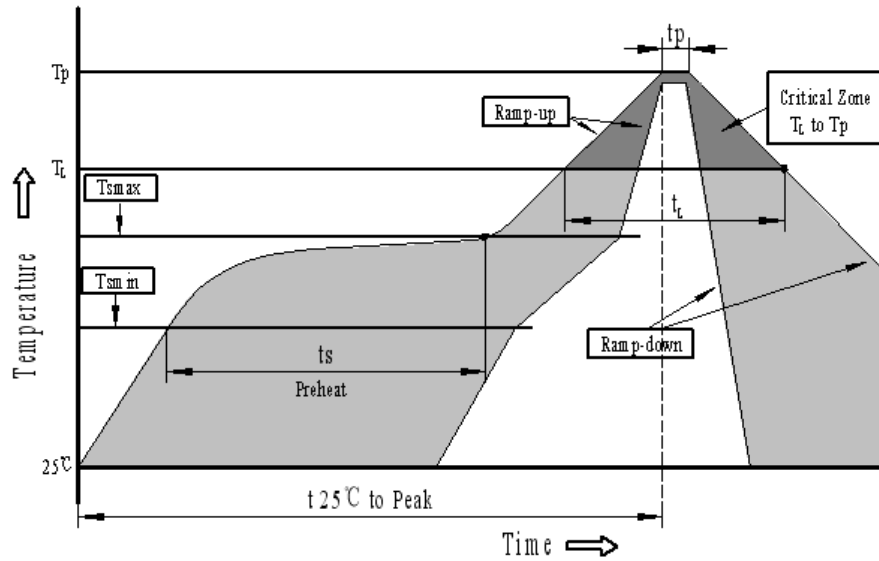
5. RELIABILITY TEST

- After Test All specifications must be satisfied after the test.
5.1 High temperature Test Temperature: +85±2°C Duration: 240HRS
5.2 Low temperature Test Temperature: -40±2°C Duration: 240HRS
5.3 Humidity Test Temperature: +40±2°C Humidity: 90 ± 5%RH Duration: 240HRS
5.4 Temperature cycling Test Temperature: -40±2°C +25 ± 5°C +85±2°C +25 ± 5°C Duration: 30min 15min 30min 15min Cycle: 5 cycles
5.5 Vibration Test Input power: 10Hz to 55Hz, and then 55Hz to 10Hz (To-and-fro. sweep time:1 minute) Amplitude: 1.5mm Direction: X, Y and Z (2 hours per plane)
5.6 Shock Test Sounder shall be measured after being applied shock (980m/s ²) for each three mutually perpendicular directions to each of 3 times by half sine wave.
5.7 Drop Test Height: 700mm Drop Face: 10mm thick wooden board. Times: 2 directions-upper and side of the part are to be applied.
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 Operating life test Continuous life test 48 hours continuous operation at +55°C with rated voltage applied. Intermittent life test A duty cycle of 1 minute on , minute off , a minimum of 5000 times at room temp. (+25±2°C)and rated voltage applied.
Warranty: For a period of six months from date of manufacturer under normal operations.

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

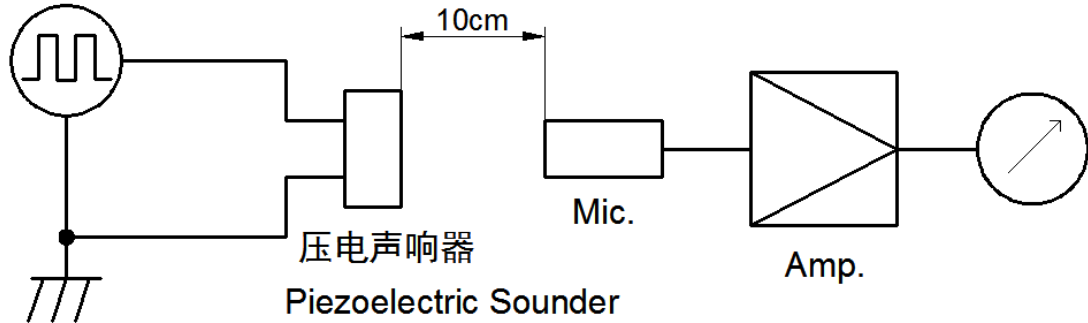


Profile Feature	Pb-Free Assembly
Average ramp-up rate(T_L to T_p)	3°C/second max.
Preheat	
-Temperature Min.(T_{smin})	150°C
-Temperature Min.(T_{smax})	200°C
-Temperature Min.(t_s)	60 ~ 180 seconds
T_{smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature(T_L)	217°C
-Time(t_L)	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.
We suggest the customer do the reflow soldering once.	

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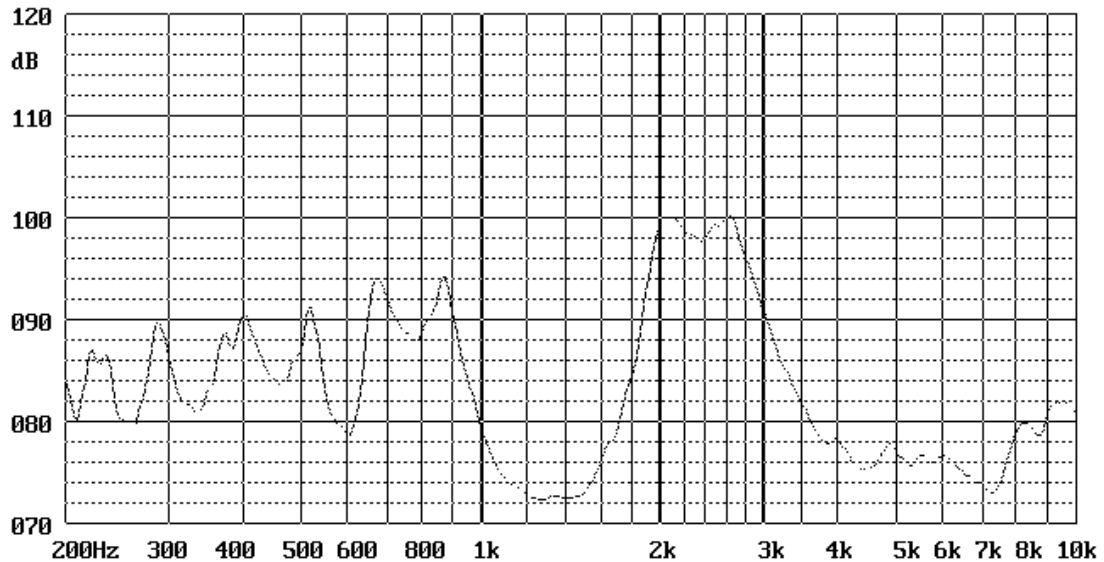
7. TEST METHOD (Figure 2)



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)

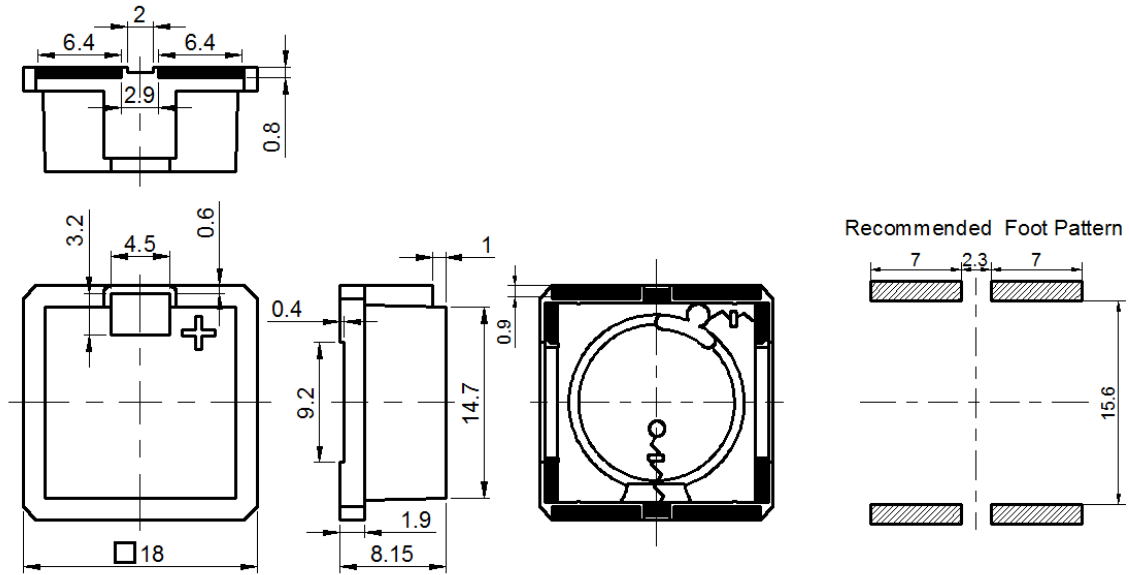


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9. DIMENSIONS (Figure 4)

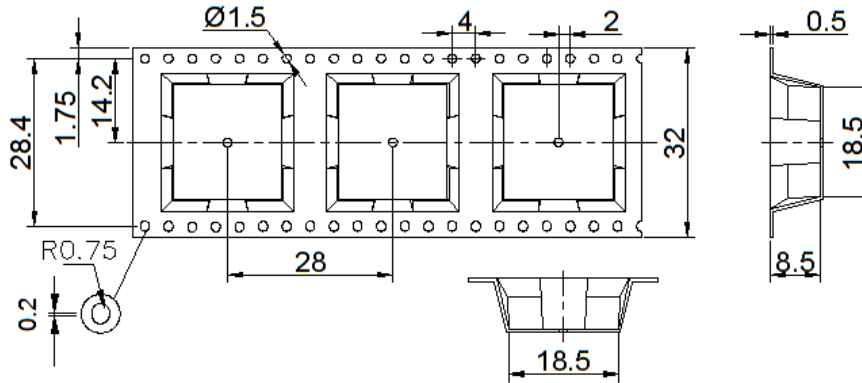
Unit: mm Tolerance: ±0.5mm Except Specified



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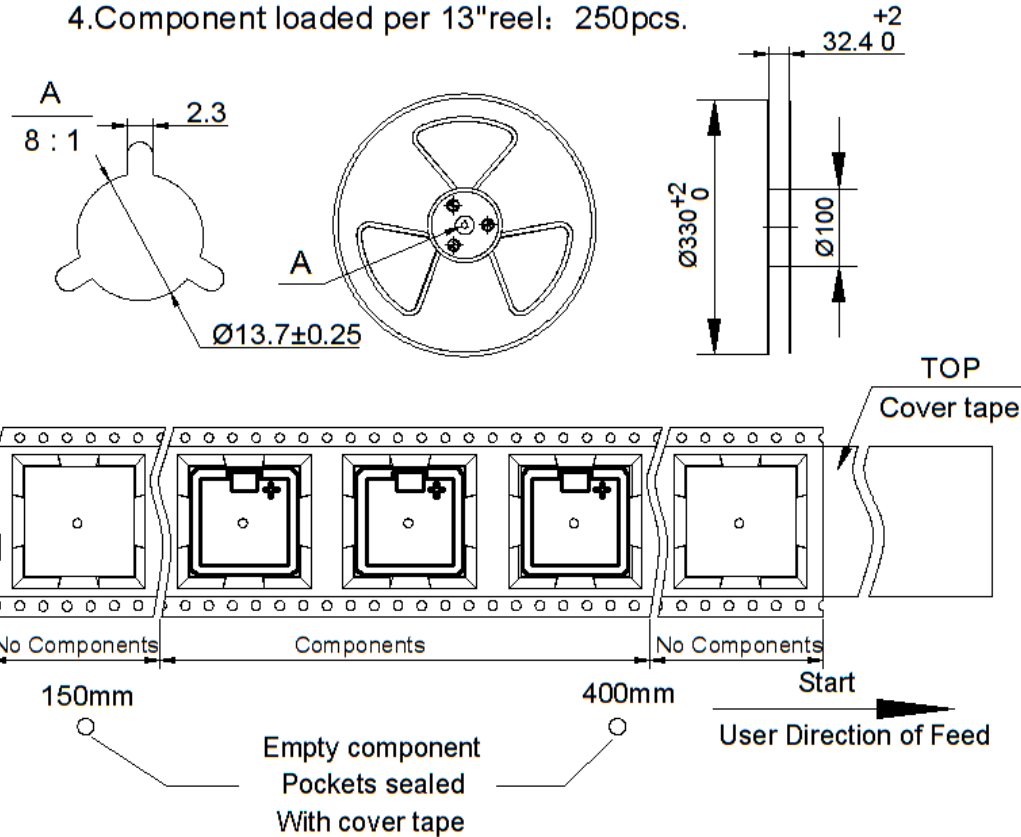
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10. PACKAGE INFORMATION (Figure 5)



NOTE:

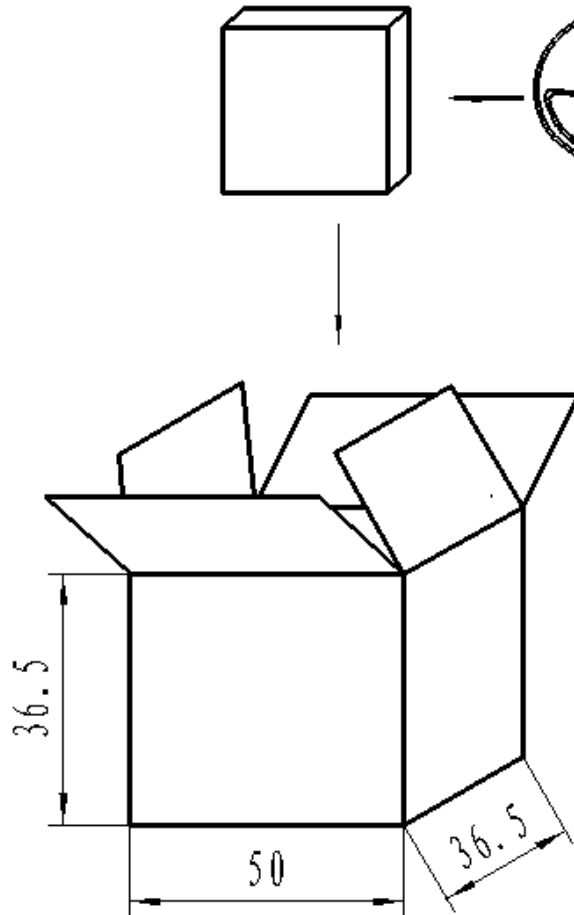
- 1.10 sprocket hole pitch cumulative tolerance +/-0.2mm.
- 2.All dimensions meet EIA-481-D requirements.
- 3.Thickness: 0.5+/-0.05mm.
- 4.Component loaded per 13" reel: 250pcs.



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11. PACKAGE INFORMATION (Figure 6)



NOTES:

1. 250PCS per inner box
2. Total 10 inner boxes per carton
3. Total 2500PCS carton
4. Carton Volume: 50*36.5*36.5cm

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