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## SPECIFICATIONS

### Piezo Transducer

Part Number	OWPB-909018S-40-03
Noted	RoHS Compliant

		DRAWN	CHECKED	APPROVED
CUSTOMER	SIGN			
OLE WOLFF	SIGN			

#### REVISION NOTES:

Date	Rev. No.	Description of Revision

OLE WOLFF ELEKTRONIK A/S Roedengvej 25 DK-4180 Soroe Denmark  TEL: +45 57833830 FAX: +45 57820019	OLEWOLFF ELECTRONICS INC. 4340 Cross Street Downers Grove, Chicago IL 60515, USA  TEL: +847 962 4169 FAX: +630 852 2520	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	OLEWOLFF ELEKTRONIK Yliopistonkatu 26A, P.O. Box 257, FIN-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-909018S-40-03

## 2. GENERAL REQUIREMENTS

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

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

## 3. MECHANICAL LAYOUT & DIMENSIONS

DIMENSIONS: SHOWN IN FIGURE 4.

WEIGHT: 0.25g

## 4. ELECTRICAL CHARACTERISTICS

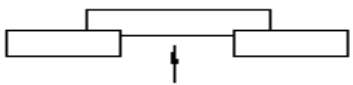
NO.	ITEM	SPECIFICATION
1	OPERATING VOLTAGE	3Vp-p
2	RESONANT FREQUENCY	4000±500Hz
3	MAX INPUT VOLTAGE	25Vp-p
4	CAPACITANCE AT 120HZ	12000pF±30%
5	* SOUND OUTPUT AT 10CM	≥65dB
6	* RATED CURRENT	≤3mA
7	HOUSING MATERIAL	LCP
8	ROHS	Yes

\*Applying rated voltage (Resonant frequency, Square wave)

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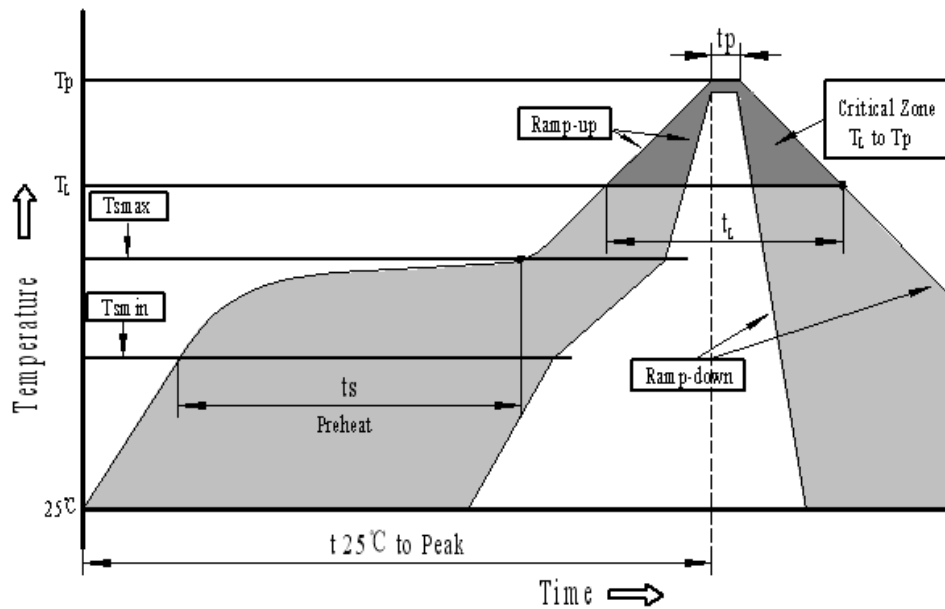
## 5. RELIABILITY TEST

- <b>After Test</b> All specifications must be satisfied after the test.				
<b>5.1 High temperature Storage Life Test</b> Temperature: +85°C Duration: 120HRS				
<b>5.2 Low temperature Storage Life Test</b> Temperature: -30°C Duration: 120HRS				
<b>5.3 Humidity Test</b> Temperature: 40±2°C Humidity: 90~95%RH Duration: 120HRS				
<b>5.4 Temperature cycling Test</b> Temperature: -30±2°C                      +20±5°C                      +85±2°C                      +20±5°C Duration: 30min                              15min                              30min                              15min Cycle: 5 cycles				
<b>5.5 Vibration Test</b> Input power: 10~55Hz then 55~10Hz, Amplitude: 1.0mm, Duration: 2 hours per plane in each three mutually perpendicular				
<b>5.6 Shock Test</b> Sounder shall be measured after being applied shock (980m/s <sup>2</sup> ) for each three mutually perpendicular directions to each of 3 times by half sine wave.				
<b>5.7 Drop Test</b> Dropped naturally from 700mm height onto the surface of 10mm thick wooden board. 2 directions-upper and side of the part are to be applied.				
<b>5.8 Lead pull</b> 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.				
<b>5.9 Recommended temp. Profile for Reflow Oven</b> Shown in Fig.1				
<b>Warranty:</b> For a period of one year from date of manufacture under normal operations.				

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

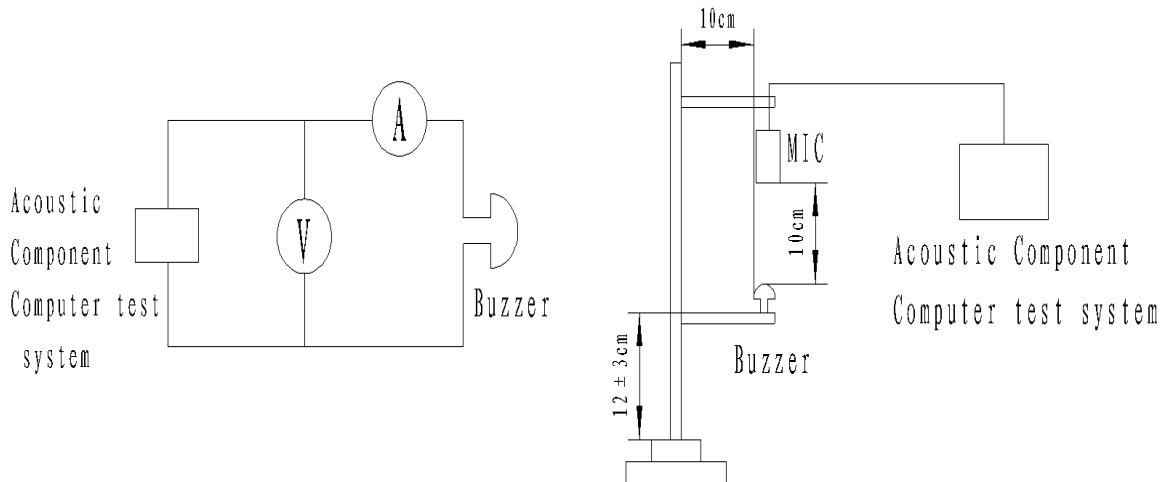


Profile Feature	Pb-Free Assembly
Average ramp-up rate( $T_L$ to $T_p$ )	3°C/second max.
Preheat	
-Temperature Min.( $T_{s_{min}}$ )	150°C
-Temperature Min.( $T_{s_{max}}$ )	200°C
-Temperature Min.(ts)	60~180 seconds
$T_{s_{max}}$ to $T_L$	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature( $T_L$ )	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 (tp)	6 seconds max.
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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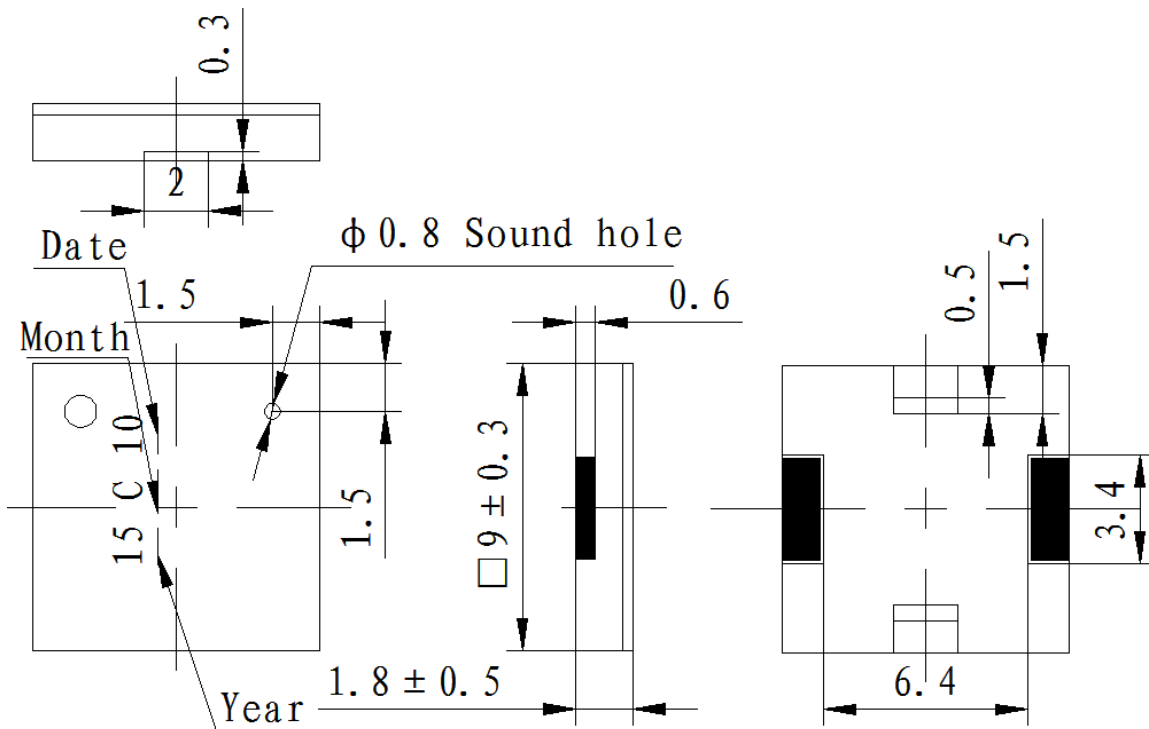
## 7. TEST METHOD (Figure 2)



## 8. DIMENSIONS (Figure 3)

Unit: mm

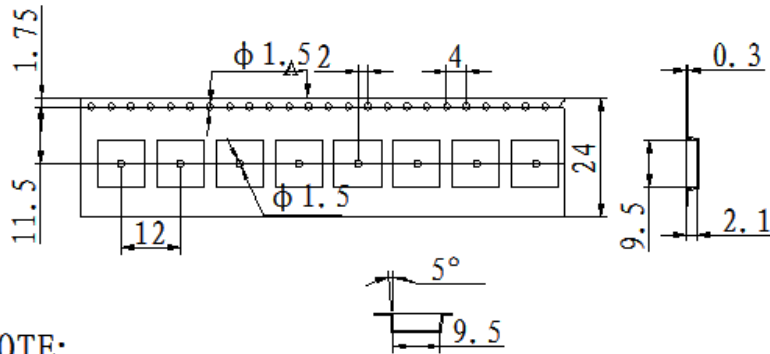
Tolerance:  $\pm 0.5$ mm Except Specified



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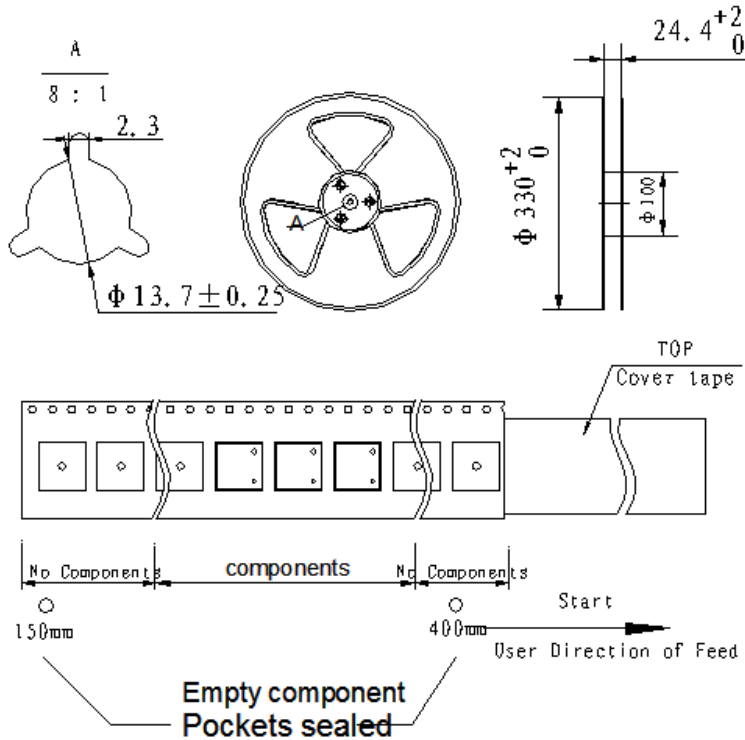
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**9. PACKING (Figure 4 & 5)**



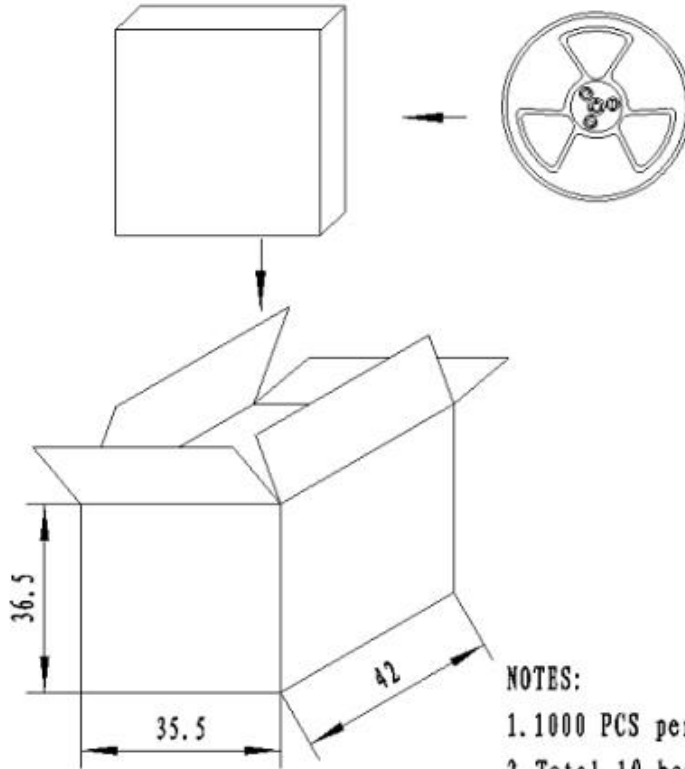
**NOTE:**

1. 10 sprocket hole pitch cumulative tolerance  $\pm 0.20\text{mm}$ .
2. All dimensions meet EIA-481-D requirements.
3. Thickness:  $0.3 \pm 0.1\text{mm}$ .
4. Component loaded per 13" reel: 2000 pcs.



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**NOTES:**

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

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