

# NINGBO SANCO ELECTRONICS CO., LTD.

## A. SCOPE

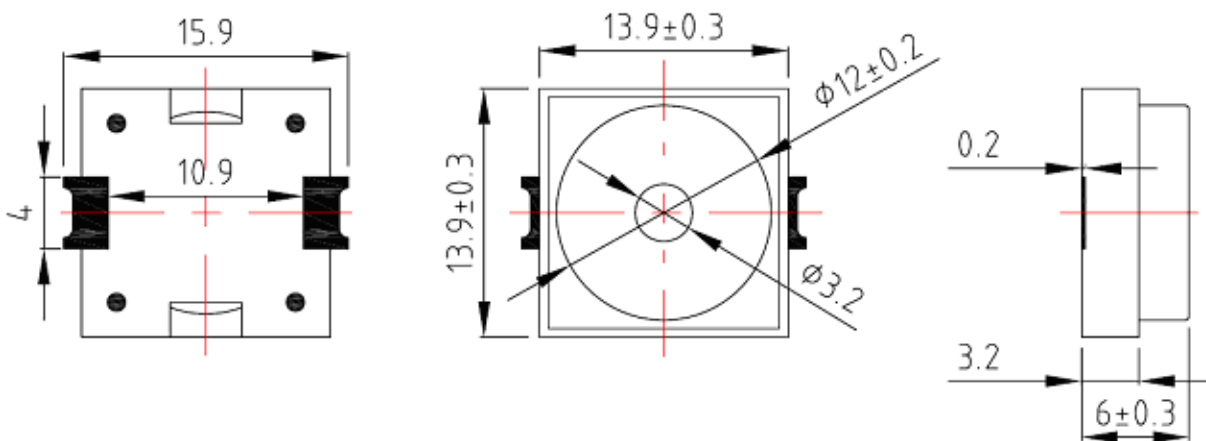
This specification applies Piezo buzzer, **SPT-1460A-05040**

## B. SPECIFICATION

|    |                            |                        |
|----|----------------------------|------------------------|
| 1  | Model No.                  | <b>SPT-1460A-05040</b> |
| 1  | Rated Voltage (Vp-p)       | 5                      |
| 2  | Resonance Frequency (Hz)   | 4000±500               |
| 3  | Max Input Voltage (Vp-p)   | 25                     |
| 4  | *Rated Current (mA)        | ≤5                     |
| 5  | Capacitance at 120Hz (pF)  | 12000±30%              |
| 6  | *Sound Output at 10cm (dB) | ≥80                    |
| 7  | Operating Temperature (°C) | -20~+70                |
| 8  | Storage Temperature (°C)   | -30~+80                |
| 9  | Weight (g)                 | 1.5                    |
| 10 | Housing Material           | PPS                    |
| 11 | Terminals                  | Brass Electro-tin      |
| 12 | RoHS                       | Yes                    |

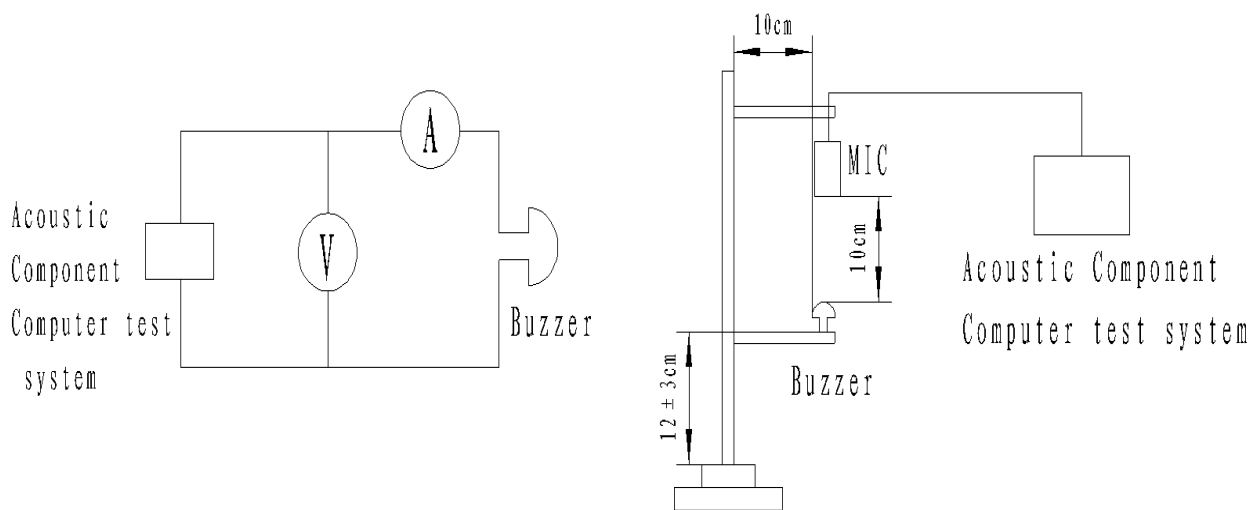
## C. DIMENSIONS (UNIT: mm)

Tolerance: ±0.5mm Except Specified

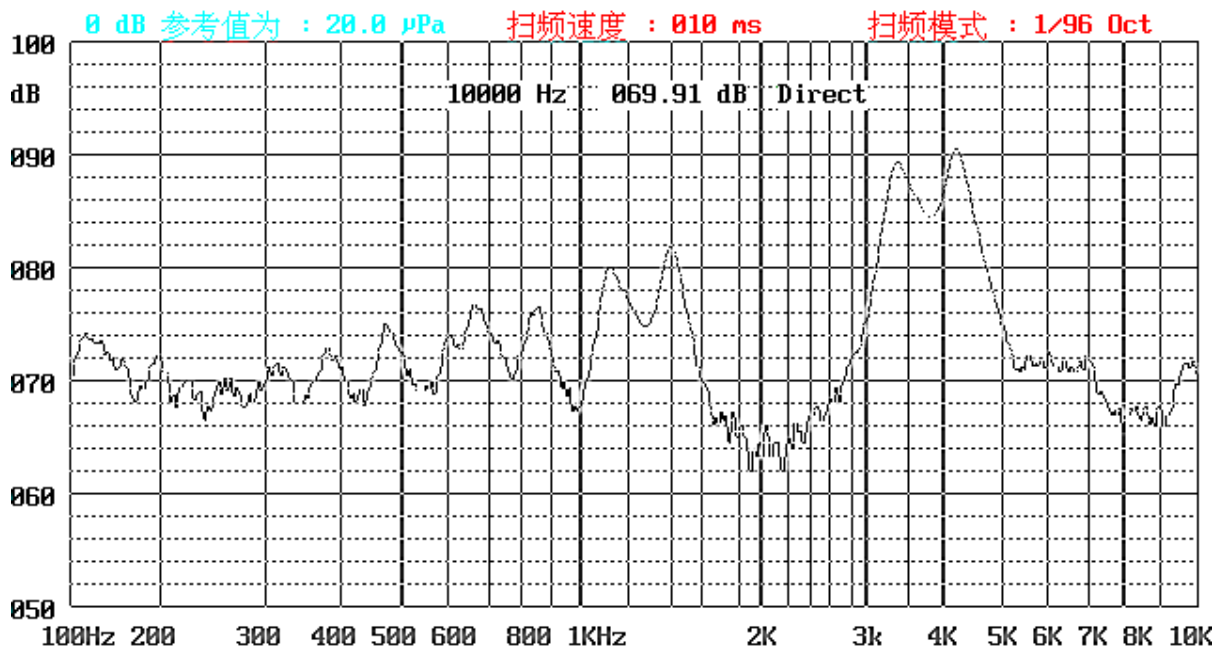


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## TEST METHOD:




## FREQUENCY RESPONSE:



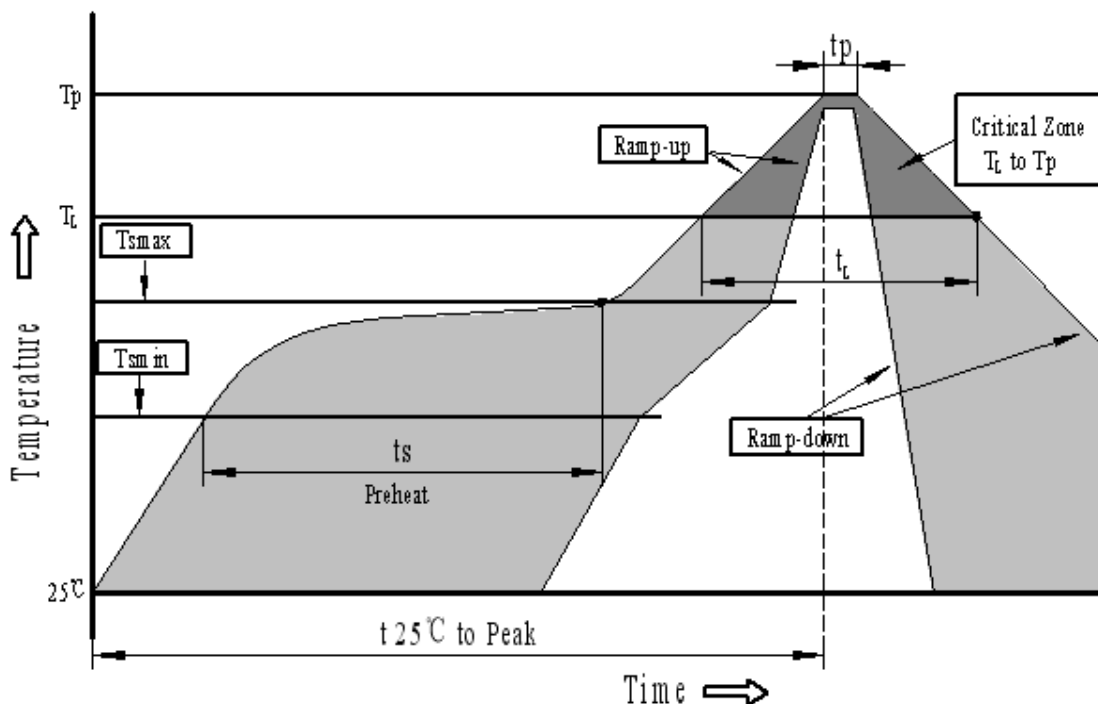
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## RELIABILITY TEST:

| NO.   | ITEM                                      | TESTING CONDITION  | VARIANCE AFTER TEST  |
|---|---|--|--|
| 1   | Humidity                                  | 40±2°C, 95%RH, 120HRS  | All specifications must be satisfied after the test.   |
| 2   | <b>High temp.</b>                         | +75±2°C, 120HRS  |  |
| 3   | Low temp.                                 | -30±2°C, 120HRS  |  |
| 4   | Temperature cycling                       | -30±2°C, 30minutes<br>+20±2°C, 15 minutes<br>+75±2°C, 30 minutes<br>+20±2°C, 15 minutes<br>5 cycles          |  |
| 5   | Shock test                                | 980m/s <sup>2</sup> , half sine wave, (X · Y&Z)<br>each of 3 times   |  |
| 6   | Vibration test                            | 10-55-10Hz, 1.5mm, 2 hours per plane   |  |
| 7   | Solderability                             | 230°C±5°C for a period of<br>3.0±.5seconds   |  |
| 8   | Solder heat resistance                    | 250±10°C for a period of 30 seconds.   | After the test part shall meet specifications without any degradation in appearance and performance. |
| 9   | Lead pull                                 | 9.8N for 10±1 seconds<br> | After the test part shall meet specifications without any degradation in appearance and performance. |
| 10  | Recommended temp. Profile for Reflow Oven | Shown in Fig.1   |  |
| <p><b>Warranty:</b>For a period of one year from date of manufacture under normal operations.</p> |   |  |  |

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## Recommended Temp. Profile 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 ( $T_p$ )                           | 235°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.   |

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## 1. Packing

