

Product Specification

Number: L-KLS14-JU-308-32.768-12.5
-15-B

Name: Crystal Resonator

Customer: _____

Date: 2026-03-11

Customer Signature:



NINGBO KLS ELECTRONIC CO; LTD

Tel : 0086-574-86828566

Fax : 0086-574-86824882

ADD : NO. 8-1, RONGXIA RD. XIAPU SHANQIAN
INDUSTRIAL ZONE BEILUN NINGBO ZHEJIANG.

| Compi | Check | Review | Approva |
|-------|--------|--------|---------|
| Jenny | Jack.C | | |

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|-------------|---------------------------------|---------|------------|
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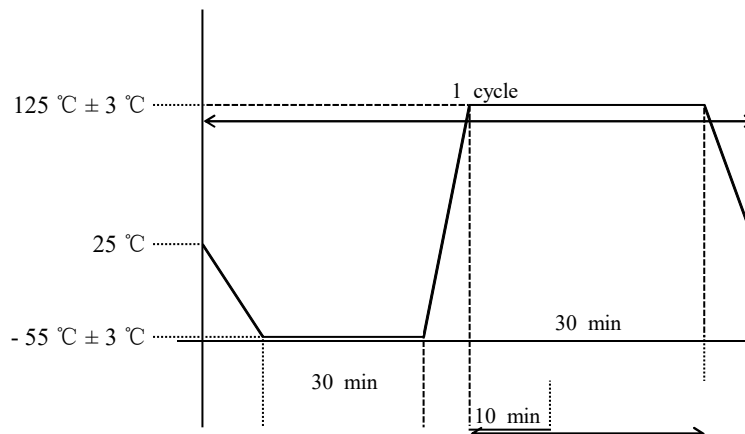
ELECTRICAL SPECIFICATIONS

| Item | Symbol | Specifications | | | | Notes |
|-------------------------------|--------|------------------------|------|---------|-----------------------------------------------|-------|
| | | Min | Type | Max | Units | |
| Nominal frequency | FO | 32.768000 | | | KHZ | |
| Mode of Oscillation | OT | Fundamental | | | | |
| Load Capacitance | CL | 12.5 | | pF | | |
| Frequency Tolerance | FT | ± 15 | | ppm | at 25°C ± 3°C | |
| Frequency Stability | | ± 30 | | ppm | with working temperature Reference to 25°C | |
| Working temperature range | TR | -20~70 | | °C | | |
| Drive Level | DL | 100 | | μW | | |
| Series Resonant Resistance RR | CI/RR | 70 | | KΩ | Max. | |
| Shunt Capacitance C0 | C0 | 5 | | pF | | |
| Aging | | ±5 | | ppm/yr. | | |
| Storage temperature range | | -40 ~ 85 | | °C | | |
| Insulation Resistance | | 500MΩ Min at D.C.100 V | | | | |
| Marking | | 32.768 | | | | |
| | | | | | | |

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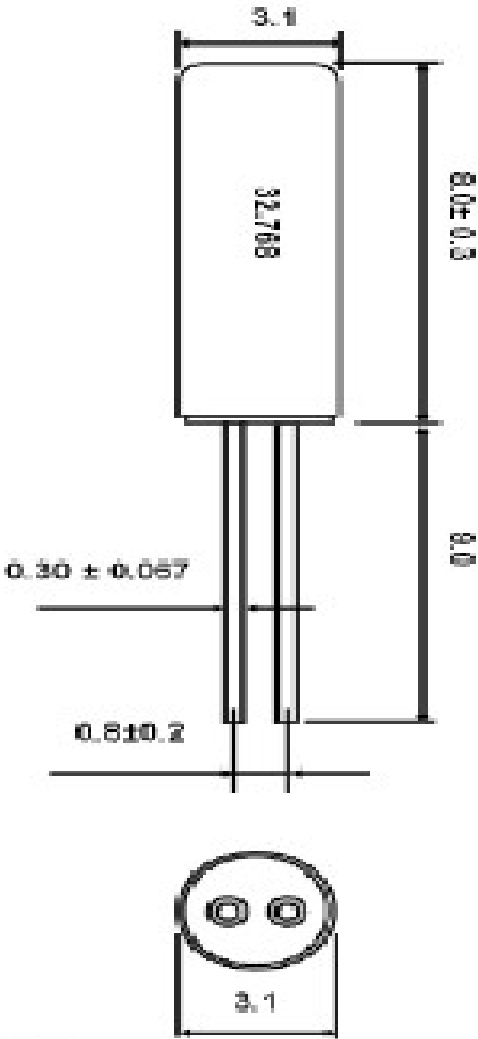
RELIABILITY SPECIFICATIONS

| NO. | TEST ITEM | TEST METHODS | | | | | | | | | | |
|-----------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|-----------|-----------------------|-----------------|----------------|----------------|-----------------|------|----------------------------------------------|
| 1 | DROP TEST | Device are dropped from a height of 75 cm onto 3 mm thick wood to perform 3 times of random drops. | | | | | | | | | | |
| 2 | MECHANICAL SHOCK | Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times. | | | | | | | | | | |
| 3 | VIBRATION | <table border="0"> <tr> <td>Frequency range</td> <td>10 ~ 2000 Hz</td> </tr> <tr> <td>Amplitude</td> <td>1.5 mm</td> </tr> <tr> <td>Sweep Time</td> <td>20 minute</td> </tr> <tr> <td>Test Time</td> <td>2 hours</td> </tr> </table> | Frequency range | 10 ~ 2000 Hz | Amplitude | 1.5 mm | Sweep Time | 20 minute | Test Time | 2 hours | | |
| Frequency range | 10 ~ 2000 Hz | | | | | | | | | | | |
| Amplitude | 1.5 mm | | | | | | | | | | | |
| Sweep Time | 20 minute | | | | | | | | | | | |
| Test Time | 2 hours | | | | | | | | | | | |
| 4 | SOLDERABILITY | MIL - STD - 20E Method 208C <table border="0"> <tr> <td>Temperature</td> <td>245°C±5°C</td> </tr> <tr> <td>Material</td> <td>H63A (Silver 2 ~ 3 %)</td> </tr> <tr> <td>Immersion depth</td> <td>0.5 mm minimum</td> </tr> <tr> <td>Immersion time</td> <td>3 ± 0.5 seconds</td> </tr> <tr> <td>Flux</td> <td>Rosin resin methyl alcohol solvent (1 : 4)</td> </tr> </table> | Temperature | 245°C±5°C | Material | H63A (Silver 2 ~ 3 %) | Immersion depth | 0.5 mm minimum | Immersion time | 3 ± 0.5 seconds | Flux | Rosin resin methyl alcohol solvent (1 : 4) |
| Temperature | 245°C±5°C | | | | | | | | | | | |
| Material | H63A (Silver 2 ~ 3 %) | | | | | | | | | | | |
| Immersion depth | 0.5 mm minimum | | | | | | | | | | | |
| Immersion time | 3 ± 0.5 seconds | | | | | | | | | | | |
| Flux | Rosin resin methyl alcohol solvent (1 : 4) | | | | | | | | | | | |
| 5 | RESISTANCE TO SOLDERING HEAT | MIL - SLD -202, Method 210, Condition I or J 10 sec immersion into 260 ± 5°C solder pot, above 180°C is 90 ~ 120 sec. | | | | | | | | | | |
| 6 | LOW TEMP. STORAGE | Leave at - 55 °C ± 2°C for 1000 ± 12 hours | | | | | | | | | | |
| 7 | HIGH TEMP. STORAGE | Leave at 125 °C ± 2°C for 1000 ± 12 hours | | | | | | | | | | |
| 8 | THERMAL SHOCK | Total 100 cycles of the following temperature cycle | | | | | | | | | | |



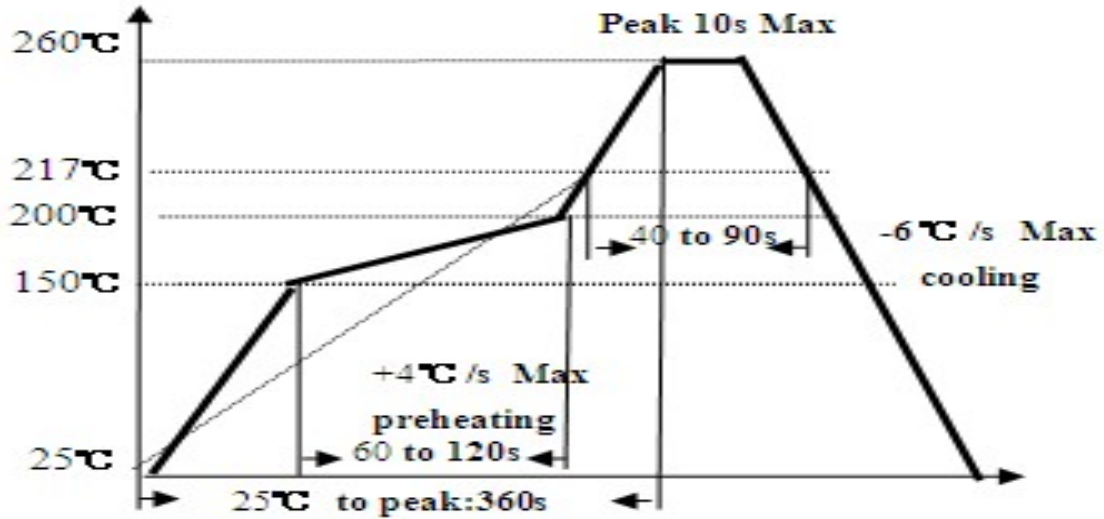
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DIMENSIONS



| | | | |
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SUGGESTED IR REFLOW PROFILE



Solder melting point : 185°C

Carrier tape and Tape reel
1 Dimensions of carrier tape

4. Package

