

# JENJAAN QUARTEK CORP.

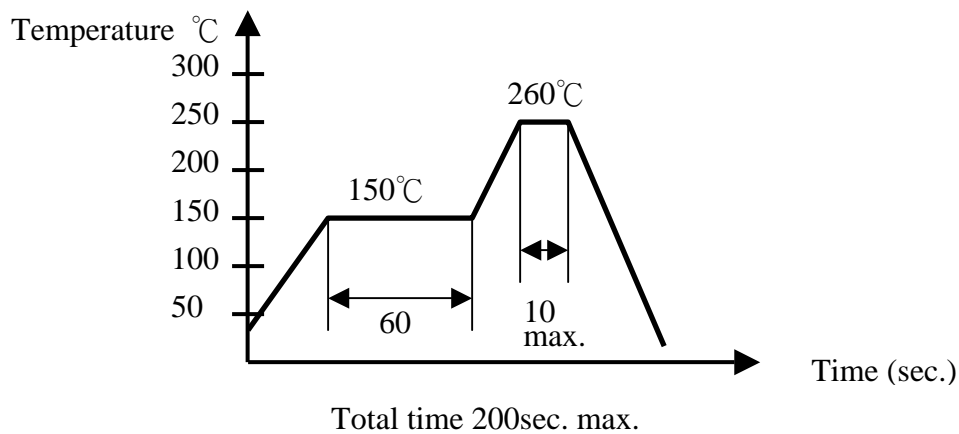
**XTAL 3.8\*8 SMD 32.768KHZ 12.5pf**

**P/N : NXZ32.768KAE125F-KAB3**

## 1.ELECTRIC CHARACTERISTICS:

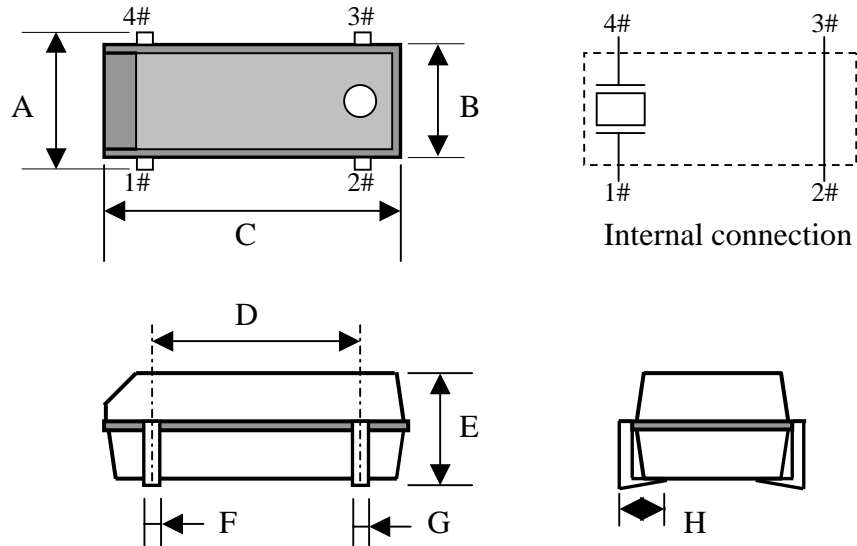
| PARAMETERS                  |      | NXZ SMD(KAB3)                      |
|-----------------------------|------|------------------------------------|
| Mode of Vibration           |      | +2° X-cut , Fundamental            |
| Nominal frequency           | F    | 32768Hz                            |
| Load Capacitance            | CL   | 12.5 PF Typical                    |
| Frequency Tolerance at 25°C |      | ± 20 ppm                           |
| Series Resistance           | Rr   | 35 KΩ Max                          |
| Quality Factor              | Q    | 40K Min                            |
| Turnover Temperature        | To   | 25 °C± 5°C                         |
| Temperature Coefficient     | K    | -0.035 ppm/°C <sup>2</sup> Typical |
| Operation Temperature       |      | -40 °C~ +85°C                      |
| Shunt Capacitance           | Co   | 1.6PF Typical                      |
| Aging 1st Year              | Δf/f | ± 5 ppm max.                       |
| Shock Resistance            |      | ± 5 ppm max.                       |
| Capacitance Ratio           | C0/C | 520 Typical                        |
| Insulation Resistance       |      | 500MΩ at DC 100V ± 15V             |
| Drive Level                 |      | 1 μW                               |

## 2.REFIOW SOLDERING PROFILE:



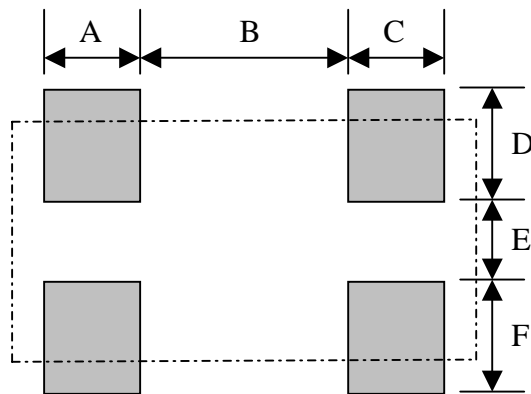
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## 3.DIMENSION:



| TYPE | A       | B       | C       | D       | E       | F       | G       | H   |
|------|---------|---------|---------|---------|---------|---------|---------|-----|
| NXZ  | 3.8±0.2 | 3.2±0.2 | 8.0±0.2 | 5.5±0.1 | 2.5±0.1 | 0.5±0.1 | 0.5±0.1 | 0.9 |

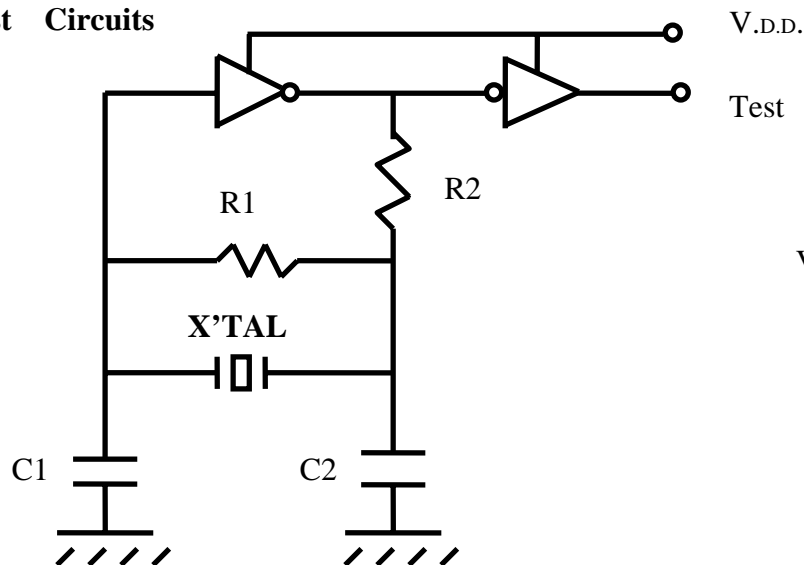
## 4.LAND PATTERN LAYOUT: (EXAMPLE)



| TYPE | A   | B   | C   | D   | E   | F   |
|------|-----|-----|-----|-----|-----|-----|
| NXZ  | 1.3 | 4.2 | 1.3 | 1.9 | 1.3 | 1.9 |

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## \* Test Circuits



V. D.D. : 5.0 V

R1 : 10 MΩ

R2 : 220 Ω

C1 : 20 Pf

C2 : 30 Pf

## 5. PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS:

### 5-1. Humidity

Subject the crystal at  $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$  and 90% - 95% RH for  $96 \pm 4$  hours. Then release the crystal into the room conditions for 1 hour prior to the measurement.

### 5-2. High Temperature Exposure

Subject the crystal to  $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $96 \pm 4$  hours. Then release the crystal into the room conditions for 1 hour prior to the measurement.

### 5-3. Low Temperature

Subject the crystal to  $-20^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $96 \pm 4$  hours. Then release the crystal into the room conditions for 1 hour prior to the measurement.

### 5-4. Mechanical Shock

Drop the crystal randomly onto a concrete floor from the height of 75cm 3 times.

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## **5-5. Temperature Cycling**

Subject the crystal to  $-30^{\circ}\text{C}$  for 30 min. followed by a high temperature of  $+85^{\circ}\text{C}$  for 30 min. Cycling shall be repeated 5 times with a transfer time of 15 sec. at the room condition . Then release the resonator into the room temperature for 2 hours prior to the measurement .

## **5-6. Vibration**

Subject the crystal to vibration for 2 hours each in x, y, and z axes with the amplitude of 1.5mm, the frequency shall be varied uniformly between the limits of 10-55 Hz .

## **5-7. Resistance to Solder Heat**

Dip the crystal terminals no closer than 2 mm into the solder bath  $260^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $5\pm 1$  sec; Then release the crystal into the room temperature for 1 hour prior to the measurement .

## **5-8. Solder Ability**

Dip the crystal terminals no closer than 2 mm into the solder bath at  $235^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $3\pm 0.5$  sec. . more than 95 %of the terminal surface of the crystal shall be covered with fresh solder.

## **5-9. Lead Fatigue**

### **1) Pulling Test**

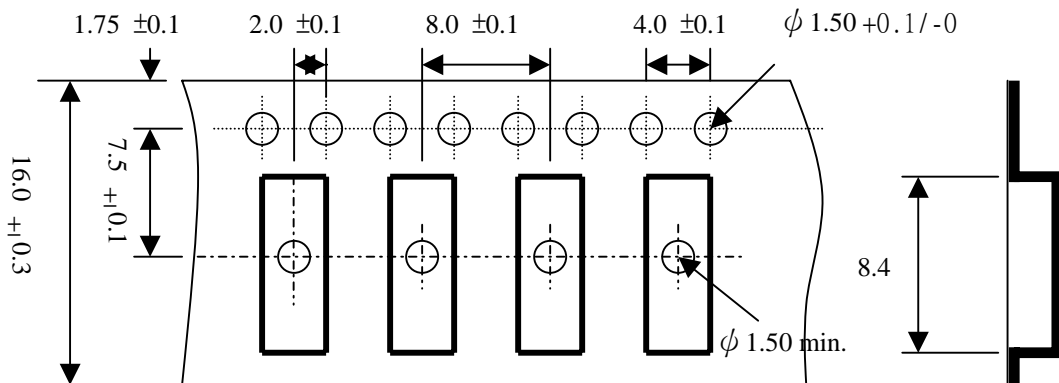
Weight along with the direction of terminals without any shock 0.5kg for  $10\pm 1$ sec.; The crystal shall no evidence of damage and shall fulfill all the initial electric characteristics .

### **2) Bending Test**

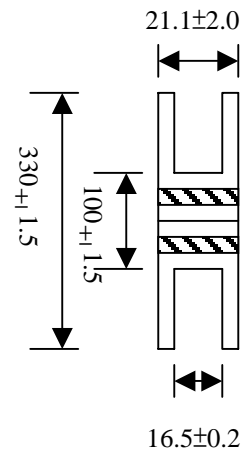
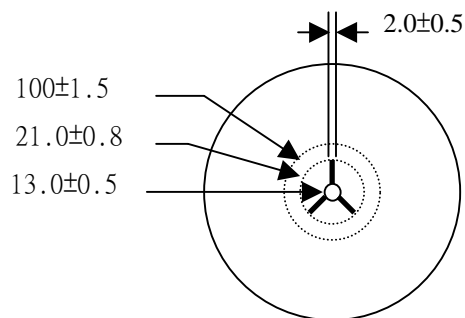
Lead shall be subject to withstand against 90 degree bending at its stem • This operation shall be done towards both direction; The crystal shall no evidence of damage and shall fulfill all the initial electric characteristics .

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## 6. TAPE AND REEL DIMENSIONS:



|           |           |
|-----------|-----------|
| <b>W</b>  | 16.0 ±0.3 |
| <b>A0</b> | 4.05 ±0.1 |
| <b>B0</b> | 8.4 ±0.1  |
| <b>K0</b> | 2.9 ±0.1  |



1. 10 sprocket hole pitch cumulative tolerance  $\pm 0.2$
2. Carrier camber is within 1 mm in 250 mm
3. Material : Transparent Polystyrene Alloy ( UP-6100 )
4. All dimensions meet EIA-48I-B requirements
5. Thickness : 0.35 ±0.05 mm
6. Packing length per 22" reel : 62.5Meters
7. Component load per 13" reel : 1000 pcs