

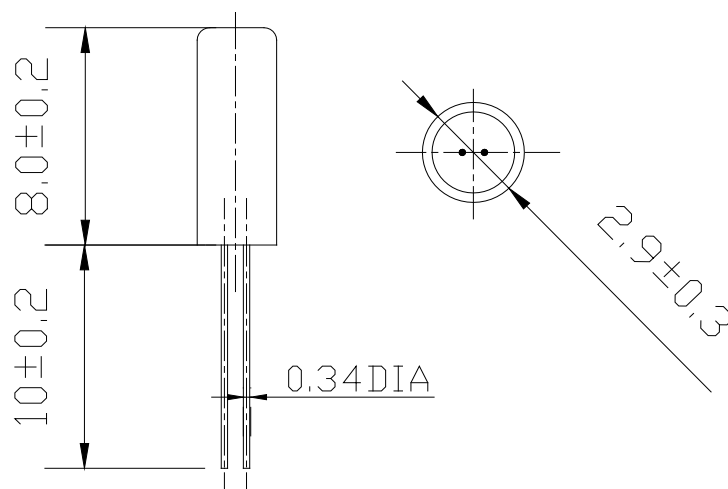
# TUNING FORK CRYSTAL UNIT

## TYPE : VT-30832.768KHz-DIP

### 1.ELECTRIC CHARAC:

PARAMETERS		VT-308
Mode of Vibration		+2° X-cut , Fundamental
Nominal frequency	F	32.768KHz
Load Capacitance	C <sub>L</sub>	12.5 PF Typical
Frequency Tolerance at 25°C		±20 ppm
Series Resistance	R <sub>r</sub>	30KΩ Max
Quality Factor	Q	35K TYP
Turnover Temperature	T <sub>o</sub>	25 °C ± 5°C
Temperature Coefficient	K	-0.035 ppm/°C <sup>2</sup> Typical
Operation Temperature		-40 °C ~ +60°C
Shunt Capacitance	C <sub>o</sub>	1.6PF Typical
Aging 1st Year	Δf/f	± 5 ppm max.
Shock Resistance		± 5 ppm max.
Capacitance Ratio	C <sub>o</sub> /C	520 Typical
Insulation Resistance		500MΩ at DC 100V ± 15V
Drive Level		1 μW
Remark:		

## 2.DIMENSION (MM)



## 3. PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

### 3-1. 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.

### 3-2. 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.

### 3-3. 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.

### 3-4. Mechanical Shock

Drop the crystal randomly onto a concrete floor from the height of 50cm 3 times.

### 3-5. 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 15sec. at the room condition. Then release

the resonator into the room temperature for 2hours prior to the measurement .

**3-6. Vibration**

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

**3-7. 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 erminal surface of the crystal shall be covered with fresh solder.

**3-8. 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 .

**4. REVIEW OF SPECIFICATION**

When something get doubtful with this specifications , we shall jointly work to get an agreement .