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## Victorlands Technical Specification

<b>Product name</b>	<b>Quartz crystal unit</b>
<b>Model</b>	<b>MC-306/32.768KHz</b>
<b>Product code</b>	<b>K7E32768L5Q4B2</b>
<b>Product parameters</b>	12.5PF/±20PPM
<b>Product reliability</b>	P. 2-4
<b>Packing form</b>	P. 3

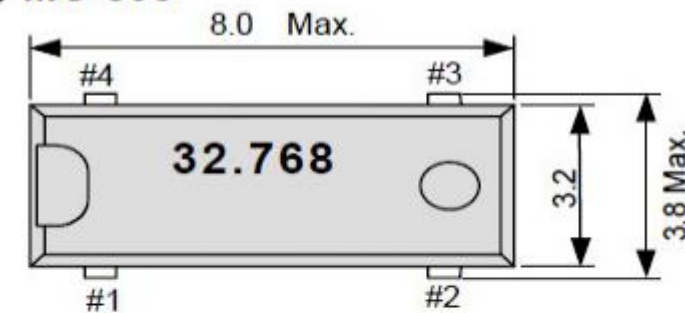


## 1.ELECTRIC CHARAC:

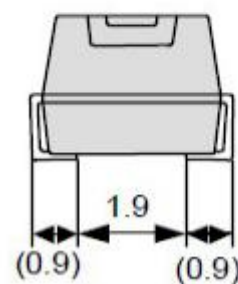
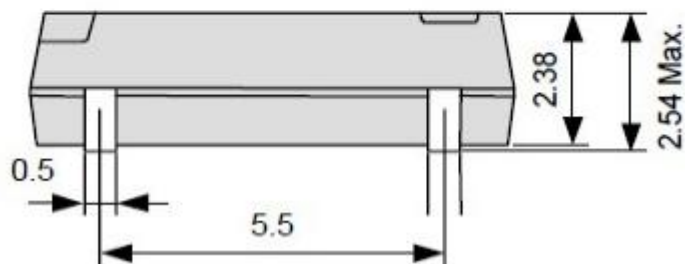
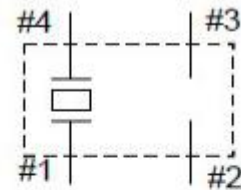
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|--|---|
| 1. Frequency:                                  | 32.768KHZ   |
| 2. Holder Type:                                | M6  |
| 3. Frequency Tolerance:                        | $\pm 20$ ppm at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$  |
| 4. Equivalent Series Resistance:               | 70 K $\Omega$ Max   |
| 5. Storage Temperature Range:                  | $-40^{\circ}\text{C}$ TO $+85^{\circ}\text{C}$              |
| 6. Operating Temperature Range:                | $-40^{\circ}\text{C}$ TO $+85^{\circ}\text{C}$              |
| 7. Frequency Characteristics Over Temperature: | $\pm 20$ ppm $-40^{\circ}\text{C}$ TO $+85^{\circ}\text{C}$ |
| 8. Load Capacitance (CL):                      | 12.5 PF   |
| 9. Drive Level:                                | 1.0 uW MAX  |
| 10. Shunt Capacitance:                         | 1.35PF MAX  |
| 11. Insulation Resistance:                     | 500M $\Omega$ Min at D.C. 100 V                             |
| 12. Capacitance ratio                          | 650 max   |
| 13. Aging:                                     | $\pm 5$ ppm/Year  |
| 14. Marking                                    | K32.768   |

## 2.DIMENSION (MM)

## ● MC-306



(TOP VIEW)



## 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 75cm 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 15 sec. at the room condition. Then release the resonator into the room temperature for 2 hours prior to the measurement.



### **3-6. 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 .

### **3-7. 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 .

### **3-8. 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.

### **3-9. 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.

## **4. REVIEW OF SPECIFICATION**

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