



## TUNING FORK QUARTZ CRYSTAL UNITS

### ◆ JU-38 Crystal



The tuning fork type quartz crystal provides ultimate in size, performance, and economic trade-offs. So it is used as a clock source in communication equipment, measuring instrument, microprocessor and other time management application

#### FEATURES

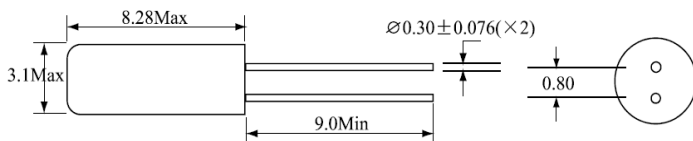
- Miniature Package
- Low Cost
- KHz Frequency
- Tight Tolerance

### ◆ 标准规格 Electrical Specifics

| Item                                   | Type | JU-38  |
|--|------|--|
| 标准频率 Frequency Range                   | F0   | 32.768KHz  |
| 负载电容 Load Capacitance                  | CL   | 6pF~12.5pF   |
| 温度频差 Frequency Tolerance $\Delta F/F0$ |      | $\pm 10\text{ppm} \pm 20\text{ppm} \pm 50\text{ppm}$ (At 25°C) |
| 等效电阻 Equivalent Series Resistance ESR  |      | 35K $\Omega$ max   |
| 温度系数 Temperature Stability K           |      | -0.042ppm*( $\Delta$ °C) <sup>2</sup> max                      |
| 工作温度 Operating Temperature Range       |      | -20~+70°C, -30~+85°C   |
| 贮存温度 Storage Temperature Range         |      | -20~+70°C, -30~+85°C   |
| 静态电容 Shunt Capacitance C0              |      | 1.6pF typ.   |
| 动态电容 Motional Capacitance C1           |      | 2pF typ.   |
| 绝缘电阻 Insulator Resistance IR           |      | 500M $\Omega$ min. (At 100VDC)                                 |
| 激励功率 Drive level DL                    |      | 1 $\mu$ W max  |
| 年老化率 Aging Fa                          |      | $\pm 5\text{ppm}$ max. (At 25°C, First year)                   |
| 最小包装 Packing Unit                      |      | 1000pcs/bag  |

\*\*Please contact us for inquiries regarding other Specifications

### ◆ 外型尺寸 Mechanical Dimensions(mm)



To determine frequency stability, use parabolic curvature(k).  
for example: What is stability at 45°C

- 1). change in T(°C)=45-25=20°C
- 2). Change in frequency = -0.042ppm\*( $\Delta$ °C)<sup>2</sup>  
= -0.042ppm\*(20)<sup>2</sup>  
= -16.8ppm(max)

#### Parabolic Temperature Curve

