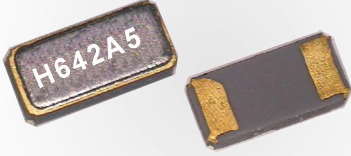




# TUNING FORK QUARTZ CRYSTAL UNITS



## • ETST Series 3.2\*1.5 32.768KHz Crystal



The SMD type quarda 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

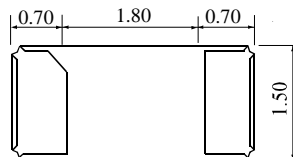
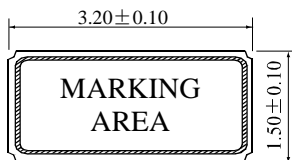
- Miniature Package
- Low resistance
- 32.768KHz Frequency
- Tight Tolerance
- Size option

## Electrical Specifications

| Item                         | Type             | ETST  |
|------------------------------|------------------|---|
| Frequency Range              | F0               | 32.768KHz   |
| Load Capacitance             | CL               | 12.5pF(7.0pF, 9.0pF Option)                               |
| Frequency Tolerance          | $\Delta F/F_0$   | $\pm 20\text{ppm}(\text{At } 25^\circ\text{C})$           |
| Equivalent Series Resistance | ESR              | 70K $\Omega$ Max.   |
| Temperature Coefficient      | K                | $-0.034\pm 0.006\text{ppm}*(\Delta^\circ\text{C})^2$      |
| Turnover Temperature         | T <sub>0</sub>   | 25 $\pm$ 5 $^\circ\text{C}$                               |
| Operating Temperature Range  | T <sub>OPR</sub> | -40~+85 $^\circ\text{C}$                                  |
| Storage Temperature Range    | T <sub>STG</sub> | -55~+125 $^\circ\text{C}$                                 |
| Shunt Capacitance            | C <sub>0</sub>   | 2.0pF Max.  |
| Insulator Resistance         | IR               | 500M $\Omega$ min. (At 100V <sub>DC</sub> )               |
| Drive Level                  | DL               | 1 $\mu\text{W}$ Max.                                      |
| Aging                        | Fa               | $\pm 5\text{ppm max. (At } 25^\circ\text{C, First year)}$ |
| Packing Unit                 |                  | 3000pcs/reel  |

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

## Mechanical Dimensions(mm)



### Recommended Solder Pattern

