



# QUARTZ CRYSTAL - HCT3x8 SERIES

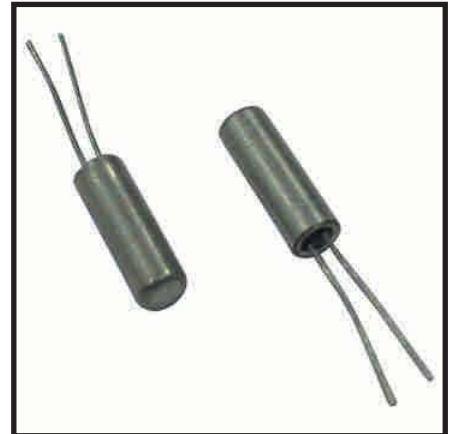
## Tuning Fork Watch Crystal Through Hole Package

### FEATURES

- Wide Frequency range
- High shock tolerance
- Small size
- Reliable frequency stability

### APPLICATION

- Microprocessor Systems
- Consumer Electronics
- Instrumentation
- Automotive Electronics



### ELECTRICAL SPECIFICATIONS

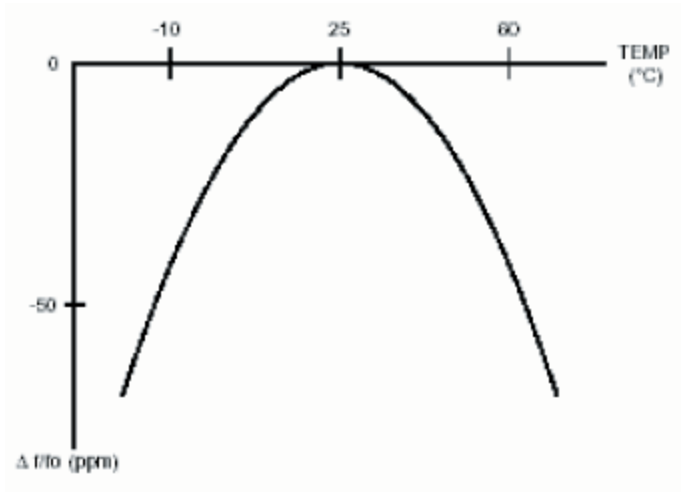
|  |  |
|--|--|
| frequency ( $f_0$ )                    | 32.768KHz  |
| Frequency tolerance ( $\Delta f/f_0$ ) | $\pm 20 \sim \pm 100$ ppm  |
| Equivalent series resistance (ESR)     | 40K $\Omega$ max   |
| Turnover Temperature ( $T_0$ )         | 25°C $\pm$ 5°C   |
| Operating Temperature                  | -10 to 60°C ( Standard )<br><i>optional:</i><br>-20 to 70°C ,<br>-40 to 85°C |
| Storage Temperature                    | -55 to 125°C   |
| Frequency Temperature Curve            | -0.034ppm/°C <sup>2</sup> Max  |
| Load Capacitance ( $C_L$ )             | 6pF~12.5pF or specify  |
| Shunt capacitance( $C_0$ )             | 2.0pF  |
| Dynamic Capacitance ( $C_1$ )          | 4.0pF  |
| Drive Level ( $D_L$ )                  | 1 $\mu$ W Max  |
| Aging ( $f_a$ )                        | $\pm 3$ ppm/year   |



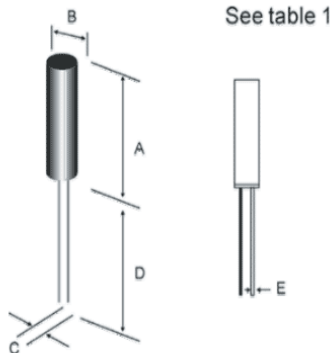
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### Frequency vs Temperature Curve



### Dimensions



| Model | A   | B   | C   | D    | E   |
|-------|-----|-----|-----|------|-----|
| 3x8   | 8.3 | 3.1 | 1.1 | 10.0 | 0.3 |

### Ordering

|         |                  |                         |                            |   |
|---------|------------------|-------------------------|----------------------------|---|
| HCT3x8- | 32.768           | - 12.5                  | - 20                       | - A   |
| Series  | Frequency in MHz | Load Capacitance ( pf ) | Frequency Tolerance in ppm | Operating Temperature Range                               |
|         |                  | 6 ~ 12.5pF              | ± 20 (std)                 | A= -10 to 60°C (std )<br>B= -20 to 70°C<br>C= -40 to 85°C |