EUROQUARTZ

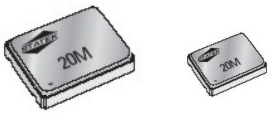
# HIGH TEMPERATURE OSCILLATORS

## High Stability/Fast Start-up/High Shock 32.768kHz

### FEATURES

- **High temperature operation up to 200°C**
- **Overall 5 times improvement in stability over tuning forks**
- **High shock version features 10,000g shock survivability**
- **Excellent stability over temperature**
- **Hermetically sealed ceramic package**
- **Low current consumption**

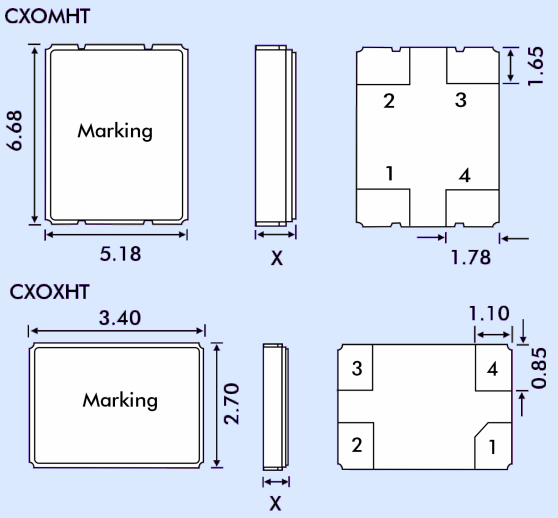
**CXOMHT**



### DESCRIPTION

For applications with high operating temperatures such as downhole instrumentation, rotary sahft sensors and underground boring tools.

### OUTLINE & DIMENSIONS




| Dimension X | CXOXHT | CXOMHT |
|---|---|---|
| Plating SM1: | 1.09 | 1.40 |
| Plating SM3/SM5: | 1.21 | 1.60 |

### SPECIFICATION

*Specifications are typical at 25°C unless otherwise indicated. Tighter specifications are available, contact Euroquartz technical sales.*

| | |
|---|---|
| Supply Voltage: | +3.3 Volts ±10% |
| Calibration Tolerance: | ±100ppm or tighter as reqd. |
| Frequency Stability | |
| 25° ~ +150°C: | ±100ppm |
| 25° ~ +175°C: | ±150ppm |
| 25° ~ +200°C: | ±175ppm |
| Supply Current (Typical) | 500µA |
| Output Load (CMOS): | 15pF |
| Start-up Time: | 0.8ms typical |
| Rise/Fall Time: | 85ns/45ns |
| Duty Cycle: | 60/40% |
| Shock Survival | |
| CXOXHT: | 5,000g, 0.3ms, ½ sine |
| CXOMHT: | 3,000g, 0.3ms, ½ sine |
| CXOM & CXOX: | 10,000g, 0.3ms, ½ sine |
| Vibration Survival: | 20g, 10~2000Hz swept sine |
| Operating Temp. Range: | -55°C to 200°C |

### ENABLE/DISABLE OPTIONS (E/N)

FOR the CXOXHT and CXOMHT, there are two enable/disable options, designated E & N. The E version has a tristate output and stops oscillating internally when the output is placed in a high Z state. The N version does not have the control pin, Pin1, connected internally so there is no enable/disable function with this option.

### PACKAGING OPTIONS

CXOMHT and CXOXHT oscillators are available either tray packed (<250pcs) or tape and reel (>250 pieces).
16mm tape, 178mm or 330mm reels (EIA 418).

### ENABLE/DISABLE OPTION E - FUNCTION TABLE

| | Enable (Pin1 High*) | Disable (Pin 1 Low) |
|---|---|---|
| Output | Frequency Output | High Z state |
| Oscillator | Oscillates | Stops |
| Current | 500µA @25°C | 3.2µA @25°C |

**When Pin 1 is allowed to float it is held by an internal pull-up resistor*

### HOW TO ORDER 32.768kHZ CXOMHT and CXOXHT OSCILLATORS

**CXOMHT 4 S HG E SM1 - 32.768k, – / – / 200 / H**

- **CXOMHT** — Package Type: CXOMHT, CXOXHT
- **4** — Supply Voltage: 4 = 3.3V
- **S** — Blank = standard, S = special or custom
- **HG** — Shock Level: Blank = standard, HG = high shock
- **E** — Enable/Disable option E or N
- **SM1** — Terminations: Blank = SM1 =Gold plated (lead free), SM5 = Solder dipped (lead free)
- **32.768k,** — Frequency: K = kHz
- **–** — Calibration Tolerance at 25°C
- **–** — Frequency Stability over temperature range (±ppm)
- **200** — Total Frequency Tolerance (±ppm)
- **H** — Temp. Range: H = 25° to 200°C, S = customer specified temp. range

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