

## High Temperature/High Shock SMD Crystal Oscillator

### FEATURES

- High temperature operation up to 200°C
- Excellent temperature stability
- Fast start-up
- High shock resistance
- Low EMI emission
- Hermetically sealed package

### DESCRIPTION

For applications with high operating temperatures oscillators types CXOHT, CXOMHT and CXOXHT will operate at temperatures as high as 200°C with a stability of 200ppm at this temperature.

### SPECIFICATION

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

Supply Voltage:	+3.3 or +5.0 Volts ±10%	
Calibration Tolerance:	±50ppm or tighter as reqd.	
Frequency Stability		
25° ~ +150°C:	±100ppm	
25° ~ +175°C:	±150ppm	
25° ~ +200°C:	±200ppm	
Supply Current (Typical)	+3.3V	+5.0V
24MHz:	3.0mA	8.0mA
32MHz:	5.0mA	10.0mA
50MHz:	6.0mA	14.0mA
Output Load:	15pF	
Start-up Time:	5ms maximum	
Rise and Fall Time:	6ns maximum	
Duty Cycle:	60/40%	
Shock Survival		
Std:	Up to 3,000g, 0.3ms, ½ sine	
HG:	Up to 10,000g, 0.3ms, ½ sine	
Vibration Survival:	20g, 10~2000Hz swept sine	
Operating Temp. Range:	-55°C to 200°C	

### COMPARISON OF ENABLE/DISABLE OPTIONS

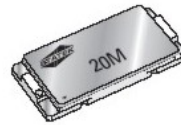
	Option 'E'	Option 'T'
When enabled (PIN 1 is high*)		
Output Oscillator	Freq. Output Oscillates	Freq. Output Oscillates
Current Consumption:	Normal	Normal
When disabled (PIN 1 'low')		
Output Oscillator	High 'Z' state Stops	High 'Z' state Oscillates
Current Consumption:	Very low	Lower than normal
When re-enabled (PIN 1 from low to high)		
Output recovery	Delayed	Immediate

\* When Pin 1 is allowed to float it is held 'high' by an internal pull-up resistor.  
Option 'N' = Pin 1 not connected internally.

### HOW TO ORDER HIGH TEMPERATURE OSCILLATORS

<b>CXOHT</b>	<b>3</b>	<b>S</b>	<b>HG</b>	<b>E</b>	<b>SM3</b>	<b>- 20.0M,</b>	<b>- /</b>	<b>- /</b>	<b>200</b>	<b>/ H</b>
Package Type CXOHT CXOMHT CXOXHT	Supply Voltage 4 = 3.3V 5 = 5.0V	Blank = standard S = special or custom	Shock Level Blank = standard HG = high shock	Enable/Disable option, E, T or N	Terminations Blank = SM1 = Gold plated SM3 = Solder dipped SM5 = Solder dipped SM1 and SM5 are pB free)	Frequency K = kHz M = MHz	Calibration Tolerance at 25°C	Frequency Stability over temperature range (±ppm)	Total Frequency Tolerance (±ppm)	Temp. Range H = 25° to 200°C S = customer specified temp. range

### CXOHT



300kHz ~ 50MHz

### CXOMHT



300kHz ~ 50MHz

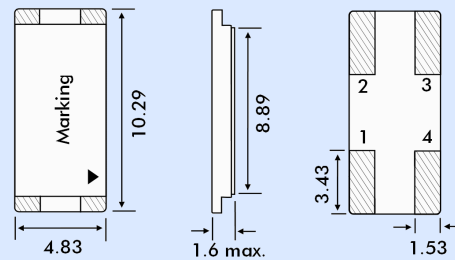
### CXOXHT



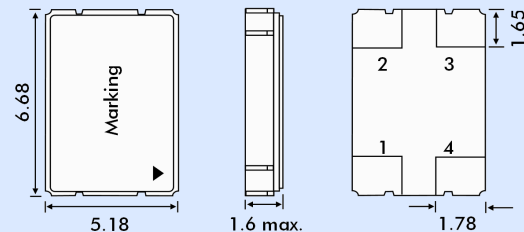
1MHz ~ 50MHz

### OUTLINE & DIMENSIONS

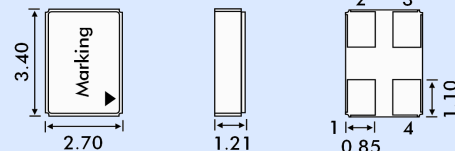
#### CXOHT



#### CXOMHT



#### CXOXHT



#### Pad Connections

- 1 Enable/Disable (E or T)  
Not connected (N)
- 2 Ground
- 3 Output
- 4 Supply Voltage

### PACKAGING OPTIONS

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