



225° HTXO OSCILLATOR

High Temperature Crystal Oscillator

1.5MHz to 50MHz

FEATURES

- Extended high temperature operation up to 225°C
- 3.3V or 5.0V supply voltages
- **Excellent stability over temperature**
- Fast start-up
- **CMOS** output
- **Optional Enable/Disable function**
- Low EMI emission

DESCRIPTION

HTXO oscillators are designed to operate at ambient temperatures <225°C. The rugged design consists of a high-shock crystal and a high temperature CMOS integrated circuit packaged in a 7.5 x 5.0mm surface-mount ceramic package. Manufactured by Statek Inc.

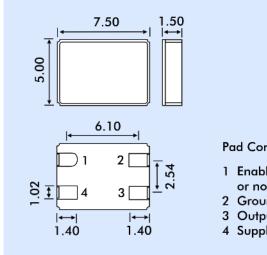
APPLICATIONS

- Oil & gas downhole instrumentation
- **Rotary shaft sensors**
- **Underground boring tools**
- **Avionics applications**

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OUTLINE & DIMENSIONS



Pad Connections

- 1 Enable/Disable (T) or not connected
- Ground
- 3 Output
- 4 Supply Voltage

SPECIFICATION

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

1.5MHz to 50.0MHz Frequency Range1: Supply Voltage: +5.0Volts ±10% or +3.3Volts ±5% ±100ppm (or tighter as required) Calibration Tolerance2: Frequency Stability +250 ppm for 25°C to 225°C over Temperature3: Total Tolerance4: ±350ppm for 25°C to 225°C Output Load (CMOS): 15pF Start-up Time: 5ms max. Rise/Fall Time: 10ns max. 40% min., 60% max. **Duty Cycle:** Shock, survival⁵: Up to 30,000g, 0.5ms, ½ sine Vibration, survival6: 20g, 10-2000Hz, swept sine

Operating Temperature Range⁷: -55° up to 225°C

PACKAGING OPTIONS

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

SUPPLY CURRENT

Current consumption typically 2mA at 8MHz, 3.3V, 225°C and Cload = 10pF

- 1. 30MHz maximum with 3.3V supply.
- 2. Does not include ageing.
- 3. Does not include calibration tolerance.
- 4. Frequency over temperature relative to nominal frequency.
- 5. 25°C.
- 6. Per MIL-STD-202G Method 204D, Condition D. Random vibration testing also available.
- 7. Expected life at 225°C is a minimum of 1000 hours.



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ABSOLUTE MAXIMUM RATINGS

 Supply Voltage:
 -0.5V to +6.0V (5.V VDD)

 Storage Temperature:
 -55° to +125°C

ENABLE/DISABLE OPTIONS

There are two Enable/Disable options available, T and N. The T-version has a tri-state output and oscillates internally when the output is put into the High Z state. The N-version does not have Pin 1 connected internally and has no enable/disable capability. The following table describes the Enable/Disable option T.

	T	N
	Enable (Pin 1 Low)	
Output:	Frequency Output	Frequency Output
Oscillator:	Oscillates	Oscillates
Current:	Normal	Normal
	Disable (Pin 1 High)	
Output:	High Z state	N/C
Oscillator:	Stops	N/C
Current:	Very low	N/C

HOW TO ORDER HTXO SMD CRYSTAL OSCILLATORS

