EUROQUARTZ

CXO OSCILLATORS

Low Profile Miniature SMD Crystal Oscillator 300kHz to 170MHz

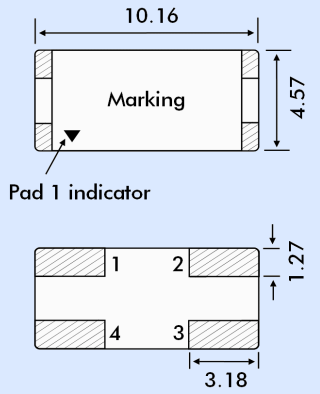
FEATURES

- **Frequency Range 300kHz to 170MHz**
- **Supply voltage from 0.9V to 5.0Volts available**
- **Full 'MIL' testing available**
- **High shock resistance**
- **Low EMI emission**
- **Low power consumption**
- **CMOS/TTL compatible output**
- **Hermetically sealed ceramic package**
- **Wire bond pads for hybrids**

DESCRIPTION

CXO oscillators consist of a miniature quartz crystal and a CMOS/TTL compatible hybrid circuit in a low-profile, small footprint ceramic package. In addition to the conventional solder or epoxy electrical connection techniques, the CXO oscillator's bond pads on the topside of the unit allow it to be connected electrically in a hybrid assembly using wire bonds.

OUTLINE & DIMENSIONS



Pad Connections

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

SPECIFICATION

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

Supply Voltage	
300kHz to 120MHz:	+5.0 Volts
300kHz to 170MHz:	+3.3 Volts
(Supply voltages 0.9V, 1.8V and 2.5V are also available)	
Calibration Tolerance:	±100ppm
Frequency Stability over Operating Temperature Range	
Commercial (0° ~ +70°C):	±50ppm
Industrial(-40° ~ +85°C):	±100ppm
Military (-55° ~ +125°C):	±100ppm
Supply Current:	See table below
Load:	CMOS 15pF *(Higher loads available)*
Rise and Fall Time:	6ns maximum
Start-up Time:	5ms maximum
Ageing:	10ppm max., first year.
Shock Survival:	3000g, 0.3ms, ½ sine*
Vibration Survival;	20g, 10~2000Hz swept sine**
Maximum Process Temperature:	260°C for 20 seconds

* *Higher shock version available, see CXOHG.*
** *Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.*

CURRENT CONSUMPTION

Frequency	Supply Current Vdd = 3.3V	Supply Current Vdd = 5.0V
10MHz	2mA	4mA
24MHz	4mA	8mA
30MHz	6mA	10mA
40MHz	8mA	12mA
50MHz	10mA	12mA

COMPARISON OF ENABLE/DISABLE OPTIONS

	Option 'E'	Option 'T'
When enabled (PIN 1 is high'*')		
Output	Freq. Output	Freq. Output
Oscillator	Oscillates	Oscillates
Current Consumption:	Normal	Normal
When disabled (PIN 1 'low')		
Output	High 'Z' state	High 'Z' state
Oscillator	Stops	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.

PACKAGING OPTIONS

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

HOW TO ORDER CXO SMD CRYSTAL OSCILLATORS

Example: **CXO-S-T-SM3-32.0M, 100/100/–/I**

CXO - S - T - SM3 - 32.0M, 100 / 100 / – / I

S	T	SM3	32.0M,	100	100	–	I
S' if special, custom design or if the voltage is not 5.0 Volts. Otherwise leave blank	Enable/Disable option, E, T or N	Terminations Blank = SM1 =Gold plated SM3 = Solder dipped SM5 = Solder dipped Lead Fee	Frequency K = kHz M = MHz	Calibration Tolerance at 25°C	Frequency Stability over Temp. Range (in ppm)		Temp. Range C = -10° ~ +70°C I = -40° ~ +85°C M = -55° ~ +125°C S = Customer specified

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