CXOMK/CXOMKHG OSCILLATOR

High Stability, High Shock Crystal Oscillator 200kHz to 200MHz

FEATURES

- **CMOS/TTL Compatible**
- **High shock resistance**
- **Optional Enable/Disable with Tri-State**
- **Low EMI emission**
- **Full military testing available**
- **Hermetically sealed package**

DESCRIPTION

CXOMK/CXOMKHG oscillators are miniature, surface mount units packaged in a 6.5 x 5.0 x 1.5mm package. Ultilizing the latest advancements in production technology, the oscillators are capable of achieving close tolerance frequency calibration and high stability over a wide temperature range. A high shock version is resistance. The part is available with full 'MIL' testing if required. Manufactured by Statek Inc.

APPLICATIONS

Military & Aerospace

- **Smart munitions**
- **Cockpit systems**
- **Navigation**

Industrial, Computer & Communications

- **Industrial controls**
- **Instrumentation**
- **Microprocessor clocks**

Medical

- **Infusion pumps**

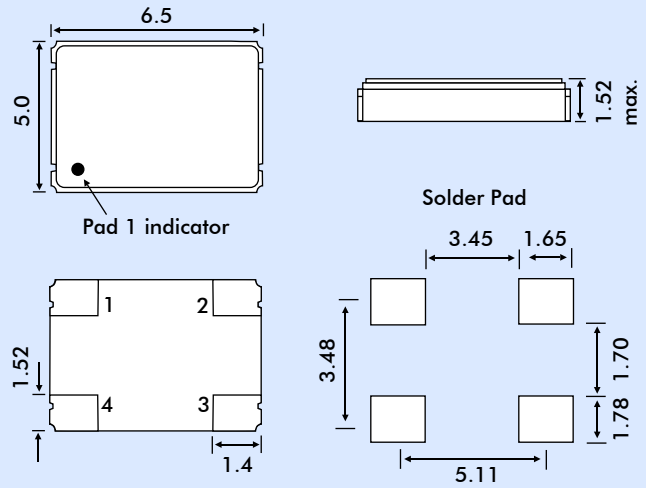
SPECIFICATION

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

Frequency Range:	200.0kHz to 200.0MHz
Supply Voltage[1]:	+0.9 to 5.0Volts ±10%
Calibration Tolerance[2]:	±30ppm
Frequency Stability over Operating Temperature Range[3]	
Commercial (0° ~ +70°C):	±15 to ±50ppm
Industrial(-40° ~ +85°C):	±30 to ±100ppm
Military (-55° ~ +125°C):	±40 to ±100ppm
Supply Current:	*See table*
Output Load (CMOS)[4]:	15pF
Start-up Time:	5ms maximum
Rise/Fall Time:	6ns maximum
Duty Cycle:	40% min., 60% max.
Ageing First Year:	±10ppm
Shock, Survival[5]:	Std:5,000g, 0.3ms, ½ sine HG: 10,000g, 0.3ms, ½ sine
Vibration Survival[6]:	20g, 10~2000Hz swept sine
Operating Temperature Ranges	
Commercial:	-10° to +60°C
Industrial:	-40° to +85°C
Military:	-55° to +125°C

1. *Voltages available: 0.9, 1.8, 2.5, 3.0, 3.3 and 5.0V*
   Not all voltages are available for all frequencies. Contact factory.
2. *Tighter tolerances available.*
3. *Doesn't include calibration tolerance. Tighter tol. may be available.*
4. *Higher CMOS and TTL loads available. Contact factory.*
5. *Higher shock version available. Contact factory.*
6. *Per MIL-STD-202G Method 204D, Condition D.*
   Random vibration testing also available.

OUTLINE & DIMENSIONS



Pad Connections
1 Enable/Disable (E or T) or not Connected (N)
2 Ground
3 Output
4 Supply Voltage

PACKAGING OPTIONS

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

SUPPLY CURRENT

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	14mA

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ABSOLUTE MAXIMUM RATINGS

Supply Voltage:	-0.5V to +7.0V*
Maximum Process Temperature:	260°C for 20 seconds
Storage Temperature:	-55° to +125°C

** The supply voltage range is -0.5V to +4.0Volts for some products. Contact factory.*

COMPARISON OF ENABLE/DISABLE OPTIONS

There are three Enable/Disable options available, E, T and N. Both the E and T versions have Tri-state outputs. In the E version the oscillator stops, in the T version the oscillator continues to run. The N version (no tristate function) does not have pin 1 connected internally.

	E	T
	Enable (Pin 1 High)	
Output:	Frequency Output	Frequency Output
Oscillator:	Oscillates	Oscillates
Current:	Normal	Normal
	Disable (Pin 1 Low)	
Output:	High Z state	High Z state
Oscillator:	Stops	Oscillates
Current:	Very low	Lower than normal

When Pad 1 is allowed to float it is held high by an internal pull-up resistor.

HOW TO ORDER CXOMK SMD CRYSTAL OSCILLATORS

CXOMK HG 4 S T* - SM3 - 32.0M / 100 / 100 / – I

- **CXOMK HG** — HG = High Shock otherwise leave blank
- **4** — Supply Voltage: 1 = 1.8V, 2 = 2.5V, 3 = 3.0V, 4 = 3.3V, 5 = 5.0V
- **S** — Blank = standard; S = special or custom
- **T*** — Enable/Disable option, E, T or N
  - * The T version is not available in all frequencies. Contact factory.
- **SM3** — Terminations: Blank = SM1=Gold plated; SM3 = Solder dipped; SM5 = Solder dipped (SM1 and SM5 are pB free)
- **32.0M** — Frequency: M = MHz, k = kHz
- **100** — Calibration Tolerance at 25°C (in ±ppm)
- **100** — Frequency Stability over Temp. Range (in ±ppm)
- **I** — Temp. Range: C = -10° ~ +70°C; I = -40° ~ +85°C; M = -55° ~ +125°C; S = Customer specified

OR

/ – / – / 200 / I

- **200** — Total Frequency Tolerance (in ±ppm)
- **I** — Temp. Range: C = -10° ~ +70°C; I = -40° ~ +85°C; M = -55° ~ +125°C; S = Customer specified

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