

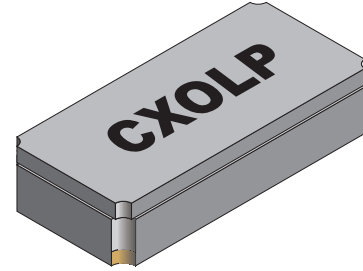


CXOLP OSCILLATOR

1 MHz to 8.5 MHz
Low Power/Fast Start-Up/Ultra-Miniature
Quartz Crystal Oscillator

DESCRIPTION

CXOLP is an ultra-miniature (3.2 x 1.5mm), low power (55µA at 1.0MHz), fast start-up time (typically 1ms), high shock (10,000g or higher) and low aging (2ppm first year) quartz crystal oscillator. Hermetically sealed in a highly reliable ceramic housing, this oscillator is available at frequencies from 1.0 MHz to 8.5 MHz with operating temperature range of -55°C to +125°C.



FEATURES

- Low current consumption (55 µA @ 1 MHz)
- Fast start-up (1 ms typical)
- Tight tolerance
- High shock resistance (10,000 g typical)
- Low aging
- Hermetically sealed ceramic package
- Designed and manufactured in the USA

APPLICATIONS

Military, Aerospace & Avionics

- Communications
- Battery Operated Devices
- Navigation
- ICAD Devices
- GPS

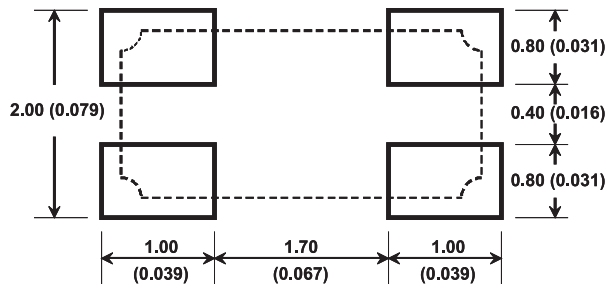
Industrial, Computer & Communications

- Wireless Telemetry
- Handheld instrumentation
- Transponder/Animal migration

Medical

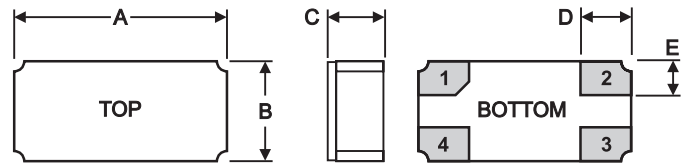
- Patient monitoring
- Infusion Pumps

SUGGESTED LAND PATTERN



mm (inches)

DIMENSIONS



DIM	TYPICAL		MAXIMUM	
	inches	mm	inches	mm
A	0.126	3.20	0.130	3.30
B	0.059	1.50	0.063	1.60
C (SM1)	0.037	0.95	0.039	1.00
D	0.029	0.75	0.030	0.77
E	0.020	0.50	0.021	0.52

PIN CONNECTIONS

1. Output
2. Ground
3. Output Enable/Disable (E) or no connection (N)
4. V_{DD}



10225 Rev A



SPECIFICATIONS

Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice. For tighter specifications please contact factory.

Supply Voltage	1.8 V to 3.3 V ±10%
Calibration Tolerance ¹	±25 ppm
Frequency Stability Over Temperature ²	±10 to ±50 ppm for Commercial ±20 to ±100 ppm for Industrial ±40 to ±100 ppm for Military
Output Load (CMOS) ³	5 pF
Aging, first year	2 ppm
Shock ⁴	10,000 g, 0.3 ms, ½ sine
Vibration ⁵	20 g, 10-2,000 Hz swept sine
Operating Temp. Range	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)

Moisture Sensitivity Level (MSL) - This product is hermetically sealed and not moisture sensitive.

1. Other tolerances available.
2. Does not include calibration tolerance. Other tolerances available.
3. Other output loads available.
4. Higher Shock available, please contact factory.
5. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

ELECTRICAL CHARACTERISTICS

All parameters are measured at 25°C with a 1.0MΩ and 5pF load with V_{DD} 3.3 V.

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
V _{OH}	Output Voltage High	0.9V _{DD}			V
V _{OL}	Output Voltage Low			0.1V _{DD}	V
t _{startup}	Start-up Time		1.0		ms
t _r	Rise Time (10%-90%)		5.5		ns
t _f	Fall Time (10%-90%)		5.0		ns
	Duty Cycle	40		60	%

ABSOLUTE MAXIMUM RATINGS

Supply Voltage V _{DD}	-0.5 V to 5.0 V
Storage Temperature	-55°C to 125°C
Maximum Process Temperature	260°C for 20 seconds

ENABLE/DISABLE OPTIONS (E/N)

For the CXOLP, Statek offers two enable/disable options: E and N. The E-version has a Tri-State output and stops oscillating internally when the output is put into the high Z state. The N-version does not have PIN 3 connected internally and so has no enable/disable capability. The following table summarizes the Enable/Disable option E.

ENABLE/DISABLE OPTION E FUNCTION TABLE

	Enable (Pin 3 High*)	Disable (Pin 3 Low)
Output	Frequency Output	High Z State
Oscillator	Oscillates	Stops
Current	See Table Below	Less than 1µA at 25°C

*When PIN 3 is allowed to float, it is held high by an internal pull-up resistor.

TYPICAL CURRENT CONSUMPTION

CXOLP 25°C 5pF load

	1.8 V	2.5 V	3.3 V
2.0 MHz	65 µA	85 µA	110 µA
4.0 MHz	115 µA	150 µA	175 µA
8.0 MHz	210 µA	285 µA	365 µA

PACKAGING OPTIONS

CXOLP - Tray Pack
- 12 mm tape, 7" or 13" reels (Per EIA 481)

HOW TO ORDER CXOLP SURFACE MOUNT CRYSTAL OSCILLATORS

