CXOM OSCILLATOR

200 kHz to 200 MHz

Low Profile Miniature Surface Mount Crystal Oscillator

DESCRIPTION

Statek's surface-mount CXOM oscillators consist of a Statek miniature quartz crystal and a CMOS/TTL compatible hybrid circuit in a low-profile ceramic package with an extremely small footprint.

FEATURES

- Designed for surface mount applications using infrared, vapor phase, or epoxy mount techniques
- CMOS and TTL compatible
- Low power consumption
- Optional Output Enable/Disable with Tri-State
- Low EMI emission
- High shock resistance
- Full military testing available
- Hermetically sealed ceramic package

APPLICATIONS

Military & Aerospace

- Smart Munitions
- Cockpit Systems
- Navigation

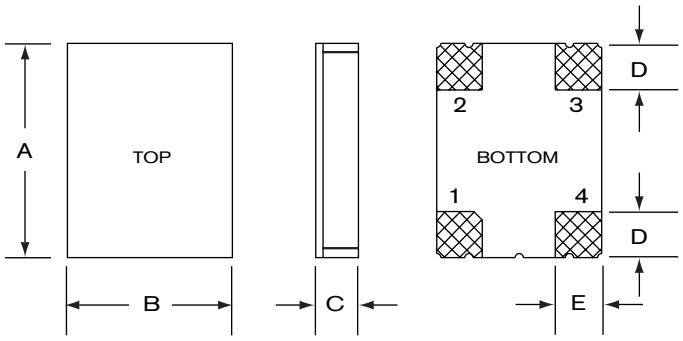
Industrial, Computer & Communications

- Industrial Controls
- Instrumentation
- Microprocessor Clocks

Medical

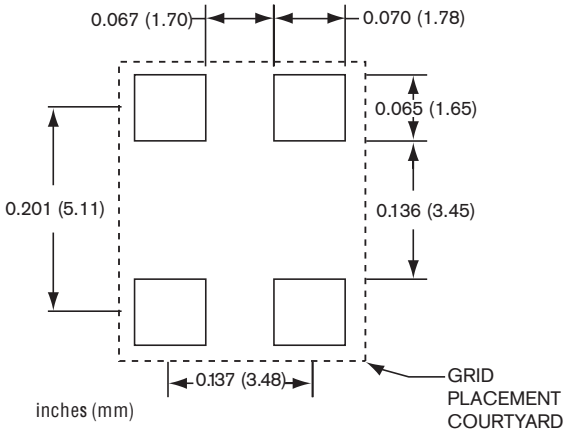
- Infusion Pumps

DIMENSIONS



	TYPICAL		MAXIMUM	
DIM	inches	mm	inches	mm
A	0.256	6.50	0.263	6.68
B	0.197	5.00	0.204	5.18
C (SM1)	0.051	1.30	0.055	1.40
C (SM3/SM5)	0.055	1.40	0.063	1.60
D	0.055	1.40	0.065	1.65
E	0.060	1.52	0.070	1.78

SUGGESTED LAND PATTERN



PIN CONNECTIONS

1. Enable/Disable (E or T) or not connected (N)
2. Ground
3. Output
4. V_{DD}

STATEK CORPORATION 512 N. MAIN ST., ORANGE, CA 92868 714-639-7810 FAX: 714-997-1256 **www.statek.com**

SPECIFICATIONS

Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice. Tighter specifications available. Please contact factory.

Supply Voltages[1]	0.9 V to 5.0 V ± 10%	
Frequency Range[2]	200 kHz to 200 MHz	
Calibration Tolerance[3]	± 100 ppm	
Frequency Stability Over Temperature[4]	± 50 ppm for Commercial ± 100 ppm for Industrial ± 100 ppm for Military	
Supply Current (Typical)	10 MHz	4 mA
	24 MHz	8 mA
	30 MHz	10 mA
	40 MHz	12 mA
	50 MHz	14 mA
Output Load (CMOS)[5]	15 pF	
Start-up Time	5 ms MAX	
Rise/Fall Time	6 ns MAX	
Duty Cycle	40% MIN, 60% MAX	
Aging, first year	10 ppm MAX	
Shock, survival[6]	3,000 g, 0.3 ms, 1/2 sine	
Vibration, survival[7]	20 g, 10-2,000 Hz swept sine	
Operating Temp Ranges	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)	

1. Voltages available: 0.9 V, 1.8 V, 2.5 V, 3.0 V, 3.3 V, 5.0 V. For 3.3 V, see the CXO3M data sheet (10126). For others, contact factory.
2. Maximum available frequency for the 5V Version of this oscillator is 160 MHz. Contact Factory
3. Other tolerances available.
4. Does not include calibration tolerance. Other tolerances available.
5. Higher CMOS loads and TTL loads available. Contact factory.
6. Higher shock version available. Contact factory about CXOMHG.
7. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

Note: All parameters are measured at ambient temperature with a 10 MΩ, 15 pF load.

PACKAGING OPTIONS

CXOM - Tray Pack

- 16mm tape, 7″ or 13″ reels
  Per EIA 418 (see Tape and Reel data sheet 10109)

ABSOLUTE MAXIMUM RATINGS

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

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

ENABLE/DISABLE OPTIONS (E/T/N)

Statek offers three enable/disable options: E, T, and N. Both the E-version and T-version have Tri-State outputs and differ in whether the oscillator continues to run internally when the output is put into the high Z state: it stops in the E-version and continues to run in the T-version. So, the E-version offers very low current consumption when the oscillator is disabled and the T-version offers very fast output recovery when the oscillator is re-enabled. The N-version does not have PIN 1 connected internally and so has no enable/disable capability. The following table summarizes the three options.

COMPARISON OF ENABLE/DISABLE OPTIONS E AND T

	E	T
When enabled (PIN 1 is high)*		
Output	Freq. output	Freq. output
Oscillator	Oscillates	Oscillates
Current consumption	Normal	Normal
When disabled (PIN 1 is low)		
Output	High Z state	High Z state
Oscillator	Stops	Oscillates
Current consumption	Very low	Lower than normal
When re-enabled (PIN 1 changes 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.

HOW TO ORDER CXOM SURFACE MOUNT CRYSTAL OSCILLATORS

CXOM S N SM3 — 32.0M , 100 / 100 / — / I

- S: "S" if special or custom design, or if the operating voltage is other than 5.0 V; otherwise leave blank.
- N: Enable/Disable Option — E, T*, or N
- SM3: Terminations — Blank = SM1; = Gold Plated; SM3 = Solder Dipped; SM5 = Solder Dipped (Lead Free)
- 32.0M: Frequency — K = kHz, M = MHz
- 100: Calibration Tolerance @ 25°C (in ppm)
- 100: Frequency Stability over Temp.Range (in ppm)
- I: Temp. Range: C = -10°C to +70°C; I = -40°C to +85°C; M = -55°C to +125°C; S = Customer Specified

*The T-version is not available in all frequencies and voltages. Contact factory.

OR

— / — / 200 / I

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

10116 Rev G