



## CX16 TELEMETRY CRYSTAL

24 MHz to 50 MHz

Low Profile, Ultra-Miniature  
Surface Mount Quartz Crystal

### DESCRIPTION

When miniaturization is paramount, Statek's low profile CX16 AT quartz crystal is an excellent choice. This crystal has a typical footprint of 2.0 mm x 1.2 mm, and a typical height of 0.4 mm. The resonator is manufactured using Statek's photolithographic and chemical milling processes and then sealed within a ceramic package for high stability and low aging. Available with tight calibration tolerances and high stability over temperature and fast start-up times, this crystal is well suited for applications that have a space restraint and require a crystal with a low profile.

### FEATURES

- Ultra-miniature, surface mount design
- Ultra-low profile
- Hermetically sealed ceramic package
- High shock and vibration survival
- Excellent aging characteristics
- Full military testing available
- Designed and manufactured in the USA

### APPLICATIONS

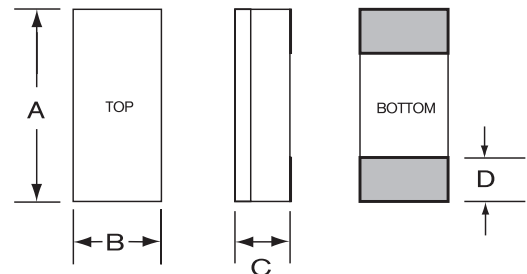
Medical

- Medical Telemetry
- Pacemakers
- Defibrillators
- Neurostimulators
- Infusion Pumps
- Cochlear Implants



ceramic lid

### PACKAGE DIMENSIONS



#### TYPICAL

DIM	inches	mm
A	0.079	2.00
B	0.047	1.20
C	-	-
D	0.025	0.64

#### THICKNESS (DIM C)

Lid	Termination	Typical	
		inches	mm
Ceramic	SM1	0.017	0.43

## SPECIFICATIONS

Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice.

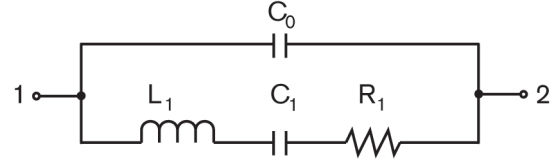
Fundamental Frequency	<u>24 MHz</u>	<u>26.5 MHz</u>
Motional Resistance $R_1(\Omega)$	100	90
Motional Capacitance $C_1$ (fF)	1.3	1.4
Quality Factor Q (k)	30	30
Shunt Capacitance $C_0$ (pF)	0.6	0.6
Calibration Tolerance <sup>1</sup>	±100 ppm, or tighter as required	
Load Capacitance	10 pF (unless specified otherwise)	
Drive Level	200 µW MAX	
Frequency-Temperature Stability <sup>1,2</sup>	±50 ppm to ±10 ppm (Commercial) ±100 ppm to ±20 ppm (Industrial) ±100 ppm to ±30 ppm (Military)	
Aging, first year	3 ppm MAX (better than 1 ppm available)	
Shock, survival	5,000 g, 0.3 ms, 1/2 sine	
Vibration, survival <sup>3</sup>	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)	
Storage Temp. Range	-55°C to +125°C	
Max Process Temperature	260°C for 20 sec.	

1. Other tolerances available. Contact factory.
2. Does not include calibration tolerance. The characteristics of the frequency stability over temperature follow that of the AT thickness-shear mode.
3. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

## TERMINATIONS

Designation	Termination
SM1	Gold Plated (Lead Free)

## EQUIVALENT CIRCUIT



$R_1$  Motional Resistance  $L_1$  Motional Inductance  
 $C_1$  Motional Capacitance  $C_0$  Shunt Capacitance

## PACKAGING OPTIONS

- Tray Pack

## HOW TO ORDER LOW PROFILE CX16L AT CRYSTALS

