



**CX18 AT CRYSTAL**  
 30 MHz to 50 MHz  
 Ultra-Low Profile Ultra Low Weight  
 Surface Mount Quartz Crystal

**DESCRIPTION**

When miniaturization is paramount, Statek's extremely small **CX18** quartz crystal is the most ideal choice. This crystal is available in frequencies from 30 MHz to 50 MHz, and has typical overall dimensions of 1.55 mm x 0.95 mm x 0.35 mm. This surface mount crystal is hermetically sealed within an ultra-miniature ceramic package to ensure high stability and low aging. The extremely small size of this crystal makes the **CX18** ideally suited for many high frequency applications.

**FEATURES**

- Ultra-Miniature Package
- Ultra-Low profile
- Ultra-low weight (1.8 mg)
- Hermetically sealed package
- Excellent aging characteristics
- Full military testing available
- Designed and manufactured in the USA

**APPLICATIONS**

Medical

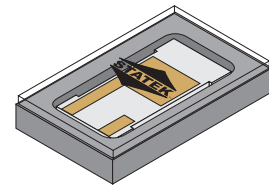
- Medical Telemetry
- Cardiac rhythm management
- Pacemakers
- Defibrillators
- Neurostimulators

Military & Aerospace

- Missile Telemetry
- Ruggedized Communications
- Aircraft Electronics
- Smart Munitions

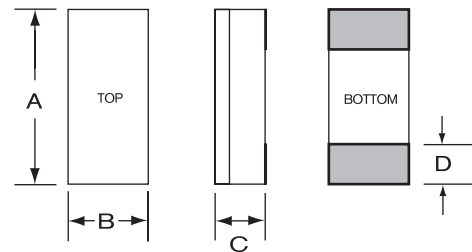
Industrial & Communications

- Bio-Tracking
- Process Control
- Portable Instrumentation



glass lid

**PACKAGE DIMENSIONS**



**TYPICAL**

DIM	inches	mm
A	0.061	1.55
B	0.037	0.95
C	see below	
D	0.020	0.51

**THICKNESS (DIM C)**

Lid	Termination	Typical	
		inches	mm
Glass or Ceramic	SM1	0.0138	0.35

## SPECIFICATIONS

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

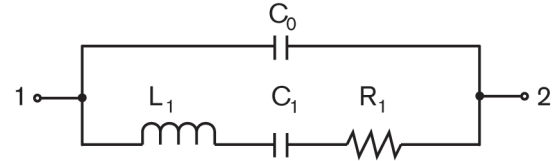
Fundamental Frequency	<u>32.0 MHz</u>	<u>49.0 MHz</u>
Motional Resistance $R_1$ ( $\Omega$ )	150	50
Motional Capacitance $C_1$ (fF)	0.9	1.1
Quality Factor Q (k)	60	54
Shunt Capacitance $C_0$ (pF)	0.6	0.5
Calibration Tolerance <sup>1</sup>	±50 to ±30ppm, or tighter as required	
Load Capacitance	9 pF (unless specified otherwise)	
Drive Level	100 $\mu$ W MAX	
Frequency-Temperature Stability <sup>1,2</sup>	±50 ppm to ±10 ppm (Commercial) ±50 ppm to ±20 ppm (Industrial) ±100 ppm to ±30 ppm (Military)	
Aging, first year	5 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 CX18 AT CRYSTALS

