



CX16 TELEMETRY CRYSTAL

24 MHz to 50 MHz

Low Profile, Ultra-Miniature 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 0.43 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.



ceramic lid

FEATURES

- Ultra-miniature
- 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

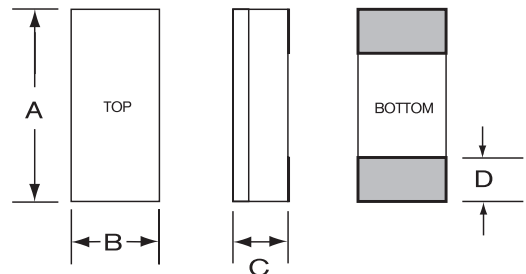
Medical

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

Military and Aerospace

Industrial and Communications

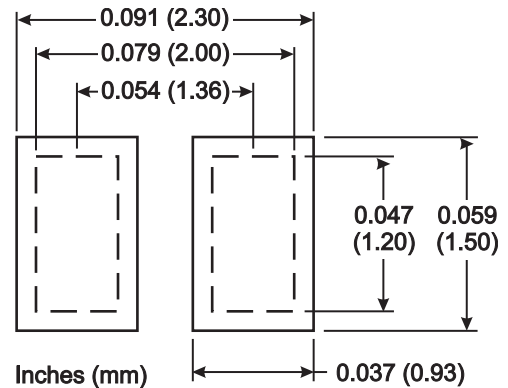
PACKAGE DIMENSIONS



TYPICAL

DIM	inches	mm
A	0.079	2.00
B	0.047	1.20
C	0.017	0.43
D	0.025	0.64

LAND PATTERN



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>	<u>48.0 MHz</u>
Motional Resistance $R_1(\Omega)$	100	90	30
Motional Capacitance C_1 (fF)	1.3	1.4	2.2
Quality Factor Q (k)	30	30	70
Shunt Capacitance C_0 (pF)	0.6	0.6	0.6
Calibration Tolerance	±100 ppm, or tighter as required		
Load Capacitance	10 pF (unless specified otherwise)		
Drive Level	100 µW MAX		
Frequency-Temperature Stability ¹	±50 ppm to ±10 ppm (Commercial) ±100 ppm to ±20 ppm (Industrial) ±100 ppm to ±30 ppm (Military)		
Aging, first year	3 ppm		
Shock, survival	5,000 g, 0.3 ms, 1/2 sine		
Vibration, survival ²	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.		

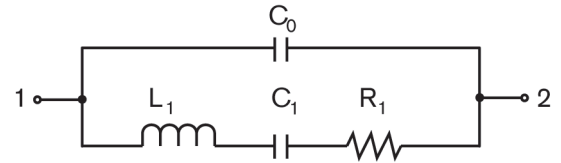
1. Does not include calibration tolerance. The characteristics of the frequency stability over temperature follow that of the AT thickness-shear mode.

2. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

TERMINATIONS

Designation	Termination
SM1	Gold Plated (Lead Free, ENEPIG)

EQUIVALENT CIRCUIT



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

PACKAGING OPTIONS

- Tray Pack
- 8mm tape, 7" or 13" reels (Per EIA 481)

HOW TO ORDER CX16 AT CRYSTALS

CX16	S	C	SM1	—	24.0M	,	30	/	10	/	—	/	S	,	3 pF
Blank = Standard S = Special or custom	C = Ceramic Lid	SM1 = Gold Plated (Lead Free, ENEPIG)	Frequency M = MHz	Calibration Tolerance @ 25°C (in ppm)	Frequency Stability over Temp. Range (in ppm)	Temp. Range: C = -10°C to +70°C I = -40°C to +85°C M = -55°C to +125°C S = Customer Specified	Load Capacitance (Customer Specified)								