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 0.43 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.

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

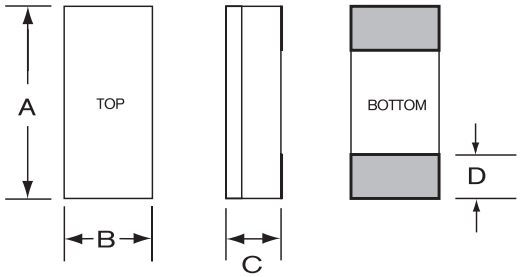
APPLICATIONS

Medical

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

ceramic lid

PACKAGE DIMENSIONS



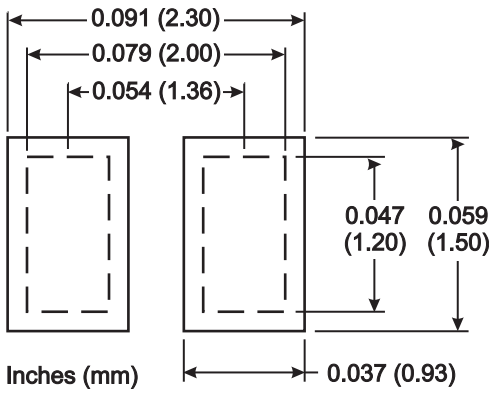
TYPICAL

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	Typical mm
Ceramic	SM1	0.017	0.43
	SM2/SM4	0.018	0.44
	SM3/SM5	0.019	0.47

LAND PATTERN



10200 Rev B

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.

Fundamental Frequency	24 MHz	26.5 MHz
Motional Resistance R_1(Ω)	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	±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 MAX (better than 1 ppm available)
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.

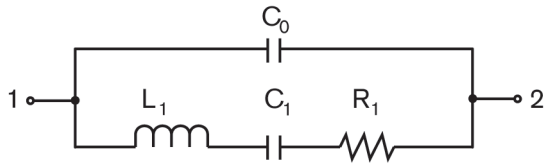
1. Does not include calibration tolerance. The characteristics of the frequency stability over temperature follow that of the AT thickness-shear mode.
2. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

TERMINATIONS

Designation	Termination
SM1	Gold Plated (Lead Free)
SM2	Solder Plated
SM3	Solder Dipped
SM4	Solder Plated (Lead Free)
SM5	Solder Dipped (Lead Free)

Max Process Temperature 260°C for 20 sec.

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 SM4 — 24.0M , 30 / 10 / — / I , 3 pF

- S: Blank = Standard; S = Special or custom
- C: C = Ceramic Lid
- SM4: SM1 = Gold Plated (Lead Free); SM2 = Solder Plated; SM3 = Solder Dipped; SM4 = Solder Plated (Lead Free); SM5 = Solder Dipped (Lead Free)
- 24.0M: Frequency M = MHz
- 30: Calibration Tolerance @ 25°C (in ppm)
- 10: 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
- 3 pF: Load Capacitance (Customer Specified)

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