



CX16V TUNING FORK CRYSTAL

32 kHz to 180 kHz

Surface Mount Quartz Crystal

DESCRIPTION

High performance tuning fork quartz crystal resonator designed and manufactured for high-reliability applications.

FEATURES

- 2.0 x 1.2 mm hermetically sealed ceramic package with ceramic lid
- ENEPIG termination
- Helium impermeable housing
- Excellent long-term aging characteristics
- Broad operating temperature ranges
- Designed and manufactured in the USA

APPLICATIONS

Medical

- Cardiac Rhythm Management
- Neurostimulators
- Heart Monitoring Devices
- Infusion Pumps
- Cochlear Implants

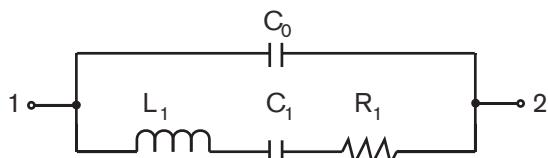
Military and Aerospace

- Avionic Indicators and Instruments
- Cockpit Instrumentation Displays
- Data Communications

Industrial and Communications

- Transport Safety
- Inventory Control

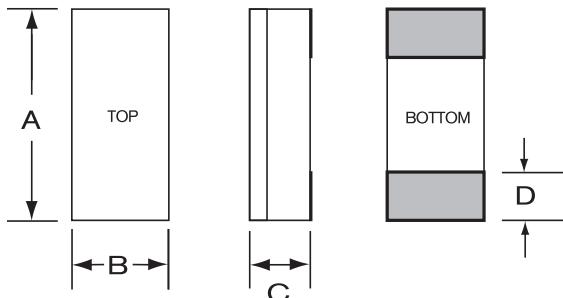
EQUIVALENT CIRCUIT



R₁ Motional Resistance L₁ Motional Inductance
C₁ Motional Capacitance C₀ Shunt Capacitance

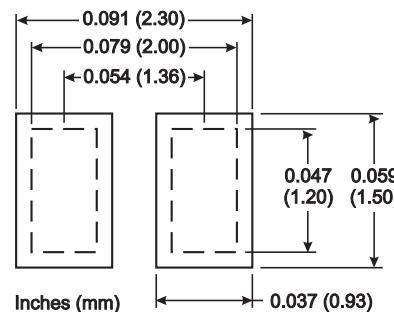


PACKAGE DIMENSIONS



DIM		TYPICAL		MAXIMUM	
		inches	mm	inches	mm
A		0.079	2.00	0.082	2.08
B		0.047	1.20	0.052	1.32
C	Standard	0.017	0.43	0.025	0.64
	Low-Profile	0.017	0.43	0.019	0.48
D		0.026	0.66	0.029	0.74

SUGGESTED LAND PATTERN



PACKAGING OPTIONS

- Tray Pack
- Tape and Reel (per EIA 481). See Tape and Reel datasheet 10109.

SPECIFICATIONS

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

Fundamental Frequency	32.768 kHz	100 - 105 kHz
Motional Resistance R_1 (kΩ)	75	20
Motional Capacitance C_1 (fF)	5.0	2.0
Quality Factor Q	16,000	40,000
Shunt Capacitance C_0 (pF)	1.0	0.6
Turnover Temperature¹ T_0	25°C	25°C
Calibration Tolerance²	±50 ppm to ±20 ppm	
Load Capacitance	Customer specified (9 pF standard)	
Drive Level	0.5 μW MAX	
Aging, First Year³	2 ppm MAX	
Shock Survival	5,000 g, 0.3 ms, ½ sine	
Vibration Survival⁴	20 g, 10-2,000 Hz swept sine	
Operating Temperature Range⁵	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)	
Storage Temperature Range⁵	-55°C to +125°C	
Max Process Temperature	260°C for 20 seconds	
Moisture Sensitivity Level (MSL)	This component is hermetically sealed and is not moisture sensitive.	

1. Other turnover temperatures available (follows parabolic function $f(T) = f(T_0) [1 + k (T - T_0)^2]$ where $k = -0.035 \text{ ppm/}^\circ\text{C}^2$).

2. Tighter tolerances available.

3. Better than 1 ppm aging available.

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

5. Broader temperature ranges available. Contact factory.

HOW TO ORDER STATEK CX16V TUNING FORK CRYSTALS

