



CX11V TUNING FORK CRYSTAL

32 kHz to 240 kHz

Surface Mount Quartz Crystal

DESCRIPTION

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

FEATURES

- 3.2 x 1.5 mm hermetically sealed ceramic package with ceramic lid
- Helium impermeable housing
- Excellent long term aging characteristics
- Broad operating temperature ranges
- Designed and manufactured in the USA

APPLICATIONS

Medical

- Cardiac Rhythm Management
- Infusion pumps
- Diabetes Control
- Neurostimulators
- Cochlear Implants

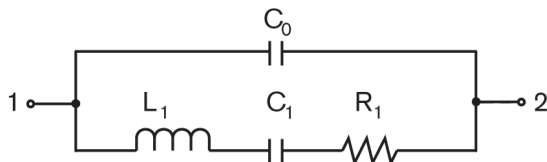
Military & Aerospace

- Avionic Indicators & Instruments
- Cockpit Instrumentation Displays
- Data Communications
- Telemetry

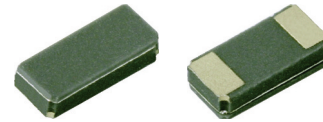
Industrial, Computer & Communications

- Communications
- Transmitters
- Pulse Generators
- Tracking Beacons

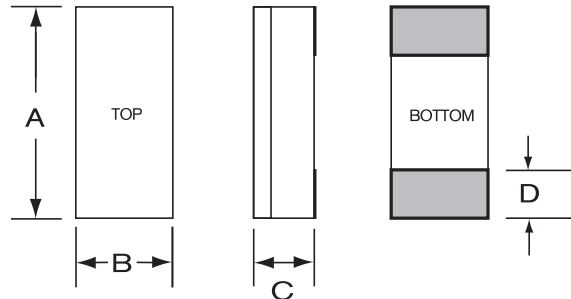
EQUIVALENT CIRCUIT



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

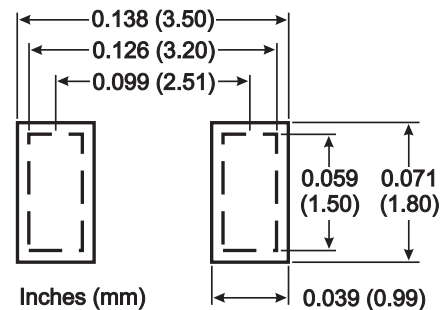


PACKAGE DIMENSIONS



DIM	Termination	TYPICAL		MAXIMUM	
		inches	mm	inches	mm
A		0.127	3.20	0.135	3.43
B		0.060	1.50	0.068	1.73
C	SM1	0.030	0.77	0.035	0.90
	SM3/SM5	0.033	0.84	0.038	0.97
D		0.027	0.69	0.037	0.94

SUGGESTED LAND PATTERN



PACKAGING OPTIONS

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

10174 Rev E



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	50.0 kHz	100.0 kHz
Motional Resistance R_1 (kΩ)	50	40	20
Motional Capacitance C_1 (fF)	3.5	1.4	1.0
Quality Factor Q	25,000	55,000	70,000
Shunt Capacitance C_0 (pF)	1.0	0.8	0.8
Turnover Temperature¹ T_0	25°C	20°C	18°C
Calibration Tolerance²	±100 ppm to ±30 ppm		
Load Capacitance	Customer specified (9 pF standard)		
Drive Level	0.5 μ W MAX		
Aging, First Year³	3 ppm MAX		
Shock Survival	5,000 g, 0.3 ms, 1/2 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 CX11V TUNING FORK CRYSTALS

