

CX9SM CRYSTAL

Ultra-Miniature SMD Crystal

14MHz to 250MHz

FEATURES

- Designed for infrared, vapour phase or epoxy mounting
- Low profile, (<1.0mm) hermetically sealed ceramic package
- **Excellent ageing characteristics**
- High shock and vibration resistance
- Full military testing available
- Available with glass or ceramic lid
- Custom designs available

DESCRIPTION

CX9SM crystals are designed for applications requiring very small footprint and low profile (<1.0mm). Using micro-machining processes this hermetically-sealed crystal ensures high stability and low ageing. Designed and manufactured by Statek Inc.

SPECIFICATION

Specifications stated are typical at 25°C unless otherwise indicated. Specifications may change without notice.

Fundamental Frequency:	25.0MHz	49.0MHz	155.52MHz
Motional Resistance R (Ω):	30	30	25
Motional Capacitance C1 (fF):	1.8	2.1	2.5
QualityFactor Q (k):	120	60	16
Shunt Capacitance C0 (pF):	1.0	1.0	1.4

Standard Calibration Tolerance ± 100 ppm or tighter as required. Load Capacitance: 10pF (or as specified) Drive Level: 200µW maximum <50MHz 100μW maximum >50MHz

Frequency Stability 1,2,3

-10° to +70°C: ± 50 ppm to ± 10 ppm -40° to +85°C: ±100ppm to ±20ppm -55° to +125°C: ±100ppm to ±30ppm

±5ppm maximum Ageing First Year: (Better than ± 1 ppm available)

Shock, Survival4: 5000g, 0.3ms, 1/2 sine

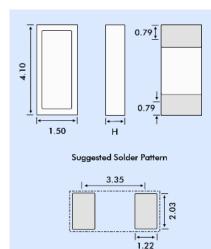
20g rms, 10~2000Hz swept sine Vibration, Survival: -10°C to +70°C (Commercial) Operating Temperature Range: -40°C to +85°C (Industrial)

-55°C to +125°C (Military)

Storage Temperature Range: -55° to +125°C +260°C for 20 seconds Maximum Process Temperature:

- 1. Other tolerances available, contact Euroquartz sales
- 2. Does not include calibration tolerance. (Frequency stability characteristics follow that of the AT-Cut thickness-shear mode.)
- 3. 5ppm max. for frequencies below 40MHz.
- 4. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

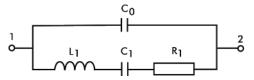
OUTLINE & DIMENSIONS





Glass Ceramic Dim. H Lid Lid 0.87 0.90 SM1 SM2 0.87 0.90 SM3 0.91 0.94 SM4 0.87 0.90 SM₅ 0.91 0.94

CRYSTAL EQUIVALENT CIRCUIT



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

PACKAGING OPTIONS

CX9SM crystals are available either tray packed (<250pcs) or tape and reel (>250 pieces).

16mm tape, 178mm or 330mm reels (EIA 418).

TERMINATIONS - PLATING

Termination		
Gold Plated (Lead Free)		
Solder Plated		
Solder Dipped		
Solder Plated (Lead Free)		
Solder Dipped (Lead Free)		

HOW TO ORDER CX9SM AT CRYSTALS

