

FEATURES

- Designed for infrared, vapour phase or epoxy mounting
- Low profile, (<1.2mm) 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

CX7SM crystals are leadless devices designed for surface mounting. The ultra-miniature crystals are hermetically sealed in a rugged, ceramic package. The crystals have a very low profile and small area.

SPECIFICATION

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

49.0MHz

Motional Resistance R1:	14kΩ
Motional Capacitance C1:	2.4fF
Quality Factor Q:	100,000
Shunt Capacitance:	0.8pF

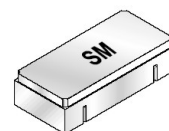
Standard Calibration Tolerance ¹ :	±100ppm to ±1000ppm
Load Capacitance:	10pF (or as specified)
Drive Level:	200μW maximum

Frequency Stability ²	
-10° to +70°C:	±50ppm to ±10ppm
-40° to +85°C:	±100ppm to ±35ppm
-55° to +125°C:	±100ppm to ±50ppm

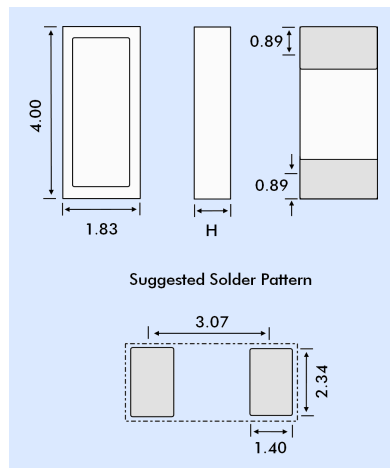
Ageing First Year:	±5ppm maximum
Shock, Survival ⁴ :	5000g peak, 0.3ms, 1/2 sine
Vibration, Survival:	20g rms, 10~2000Hz random
Operating Temperature Range:	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)

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

1. Other tolerances available, as low as ±5ppm.
2. Does not include calibration tolerance. (Frequency stability characteristics follow that of the AT-Cut thickness-shear mode.)
3. Higher shock version available.

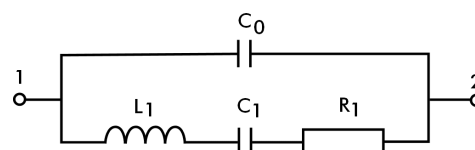


OUTLINE & DIMENSIONS



Dim. H	Glass Lid	Ceramic Lid
SM1	1.14	1.27
SM2	1.17	1.30
SM3	1.22	1.35

CRYSTAL EQUIVALENT CIRCUIT



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

PACKAGING OPTIONS

CX7SM crystals are available either tray packed (<250pcs) or tape and reel (>250 pieces).
16mm tape, 178mm or 330mm reels (EIA 418).

TERMINATIONS - PLATING

Designation	Termination
SM1	Gold Plated
SM2	Nickel, Solder Plated
SM3	Nickel, Solder Plated and Solder Dipped

HOW TO ORDER CX7SM AT CRYSTALS

CX7	-	S	-	C	-	SM1	-	49.0M,	50	/	50	/	-	/	I
		'S' if special, custom design. Otherwise leave blank		Blank = glass lid C = ceramic lid		Terminations SM1 = Gold plated SM2 = Solder plated SM3 = Solder dipped		Frequency M = MHz		Calibration Tolerance @25°C (in ppm)*		Frequency Stability over Temp. Range (in ppm)*		Temp. Range C = -10° ~ +70°C I = -40° ~ +85°C M = -55° ~ +125°C S = Customer specified	
*Alternative 'total' tolerance (in ppm)															