



CX7SM CRYSTAL

14 MHz to 250 MHz

Ultra-Miniature, Low Profile
AT-Cut Surface Mount Crystal

DESCRIPTION

STATEK's ultra-miniature, low profile CX7SM AT-cut crystals in leadless ceramic packages are designed for surface mounting on printed circuit boards or hybrid circuits. These crystals are low profile and have a very small land pattern. Maximum process temperature should not exceed 260°C.

FEATURES

- Designed for surface mount applications using infrared, vapor phase, wave solder or epoxy mount techniques
- Low profile (less than 1.2mm) hermetically sealed ceramic package
- Excellent aging characteristics
- Available with glass or ceramic lid
- High shock and vibration resistance
- Custom designs available
- Full military testing available
- Designed and manufactured in the USA

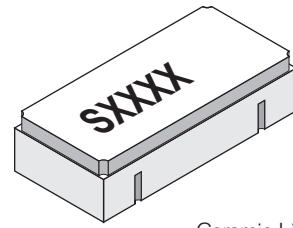
APPLICATIONS

Industrial, Computer & Communications

- General purpose clock oscillator
- PCMCIA
- Fax, Modem and LAN
- Smart card
- PDA and notebook computers
- Handheld instrumentation
- Cellular
- PCS

Military & Aerospace

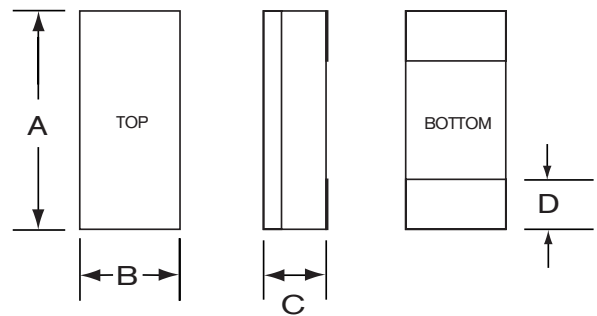
- Airborne hybrid computer
- Military high speed modem
- MCM



Ceramic Lid Shown

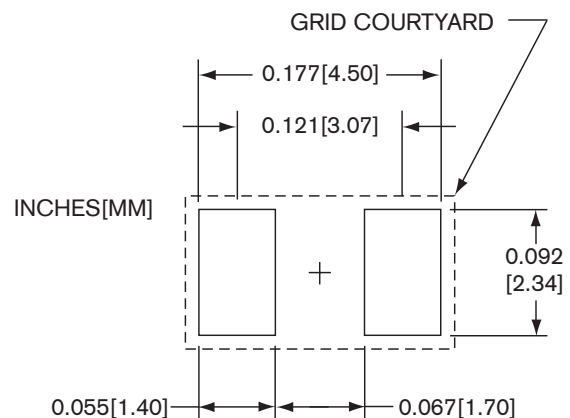
□ actual size
□ side view

PACKAGE DIMENSIONS



DIM	TYP.		MAX.	
	INCHES	mm	INCHES	mm
A	0.157	4.00	0.162	4.11
B	0.072	1.83	0.085	2.16
C	-	-	see below	
D	0.035	0.89	0.045	1.14
DIM "C"	GLASS LID		CERAMIC LID	
MAX	INCHES	mm	INCHES	mm
SM1	0.045	1.14	0.050	1.27
SM2	0.046	1.17	0.051	1.30
SM3	0.048	1.22	0.053	1.35

SUGGESTED LAND PATTERN



10155 - Rev B



SPECIFICATIONS

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

	<u>49 MHz</u>
Motional Resistance R_1 (k Ω)	14
Motional Capacitance C_1 (fF)	2.4
Quality Factor Q (k)	100
Shunt Capacitance C_0 (pF)	0.8
Calibration Tol. Range*	± 100 ppm to ± 10000 ppm
Load Capacitance	10pF (unless specified by customer)
Drive Level	200 μ W MAX.
Frequency Stability Over Temperature**	± 10 ppm for (Commercial) ± 35 ppm for (Industrial) ± 50 ppm for (Military)
Aging, first year	5 ppm MAX.
Shock, survival***	5,000 G peak 0.3 ms, 1/2 sine
Vibration, survival	20 G RMS, 10-2,000 Hz random
Standard Operating Temperature Ranges	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C (Military)
Storage Temperature	-55°C to +125°C
Max Process Temperature	260°C for 20 sec.

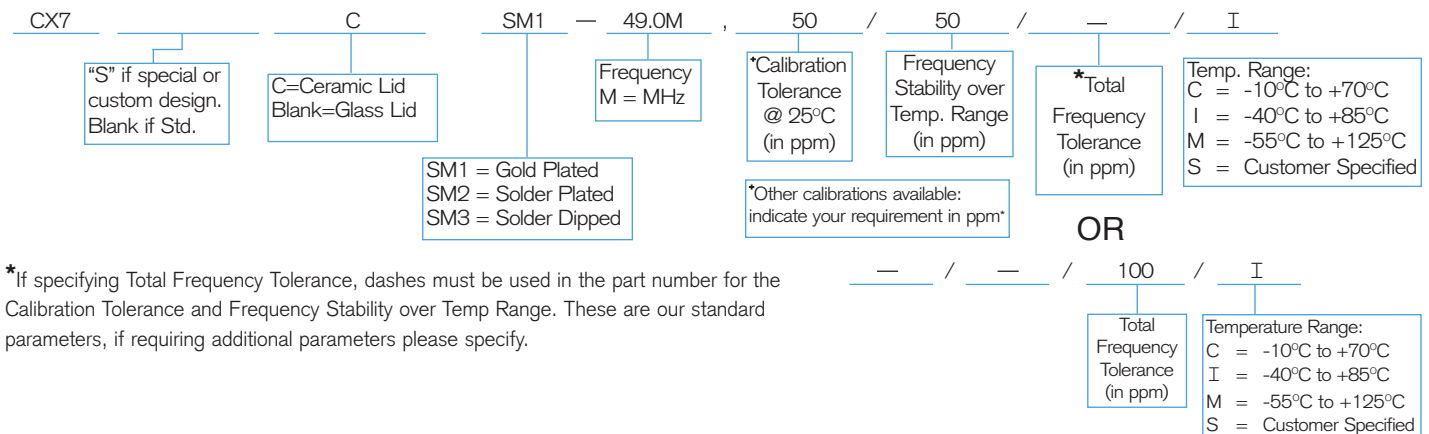
Note: The characteristics of the frequency stability over temperature follow that of the AT-Cut thickness-shear mode.

* Tighter tolerances available as low as ± 5 ppm

** Does not include calibration tolerance

*** Higher shock version available

HOW TO ORDER CX7SM CRYSTALS



TERMINATIONS

<u>Designation</u>	<u>Termination</u>
SM1	Gold Plated
SM2	Solder Plated
SM3	Solder Dipped

PACKAGING OPTIONS

CX7SM	-Tray Pack
	-16mm tape, 7" or 13" reels
	(Reference tape and reel data sheet 10109)

EQUIVALENT CIRCUIT

