

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.



PACKAGE DIMENSIONS

FEATURES

- Designed for surface mount applications using infrared, vapor phase, wave solder or epoxy mount techniques
- Low profile (less than 1.2mm) hermeitcally sealed ceraminc 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

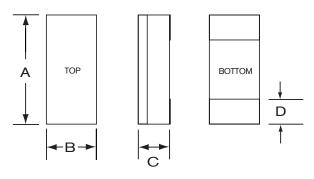
APPLICATIONS

Industrial, Computer & Communications

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

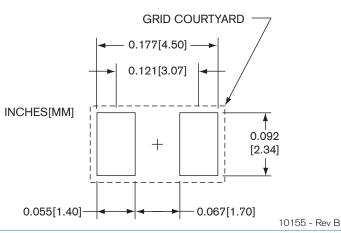
Military & Aerospace

- Airborne hybrid computer
- Military high speed modem
- MCM



TYP.		MA	X.
INCHES	mm	INCHES	mm
0.157	4.00	0.162	4.11
0.072	1.83	0.085	2.16
-	-	see be	elow
0.035	0.89	0.045	1.14
GLASS LID		CERAMIC LID	
INCHES	mm	INCHES	mm
0.045	1.14	0.050	1.27
0.046	1.17	0.051	1.30
0.048	1.22	0.053	1.35
	INCHES 0.157 0.072 - 0.035 GLASS INCHES 0.045 0.046	INCHES mm 0.157 4.00 0.072 1.83 - - 0.035 0.89 GLASS LID INCHES INCHES mm 0.045 1.14 0.046 1.17	INCHES mm INCHES 0.157 4.00 0.162 0.072 1.83 0.085 - - see be 0.035 0.89 0.045 GLASS LID CERAMIC I INCHES mm INCHES 0.045 1.14 0.050

SUGGESTED LAND PATTERN



STATEK CORPORATION 512 N. MAIN ST., ORANGE, CA 92868 714-639-7810 FAX: 714-997-1256 www.statek.com



SPECIFICATIONS

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

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	<u>49 MHz</u>
Motional Resistance $R_1(k\Omega)$	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 μW MAX.
Frequency Stability Over Te	[±] 10ppm for (Commercial) [±] 35ppm for (Industrial)
	± 50ppm 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 Temper	rature 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
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Max Process Temperature 260°C for 20 sec.

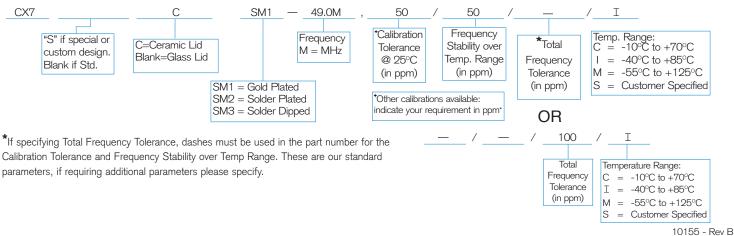
Note: The characteristics of the frequency stability over temperature follow that of the AT-Cut thickness-shear mode.

 * Tighter tolerances available as low as $\pm 5~\rm{ppm}$

** Does not include calibration tolerance

*** Higher shock version available

HOW TO ORDER CX7SM CRYSTALS



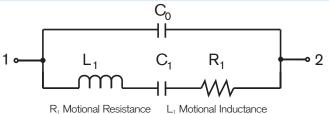
TERMINATIONS

Designation	<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



 C_1 Motional Capacitance C_0 Shunt Capacitance

