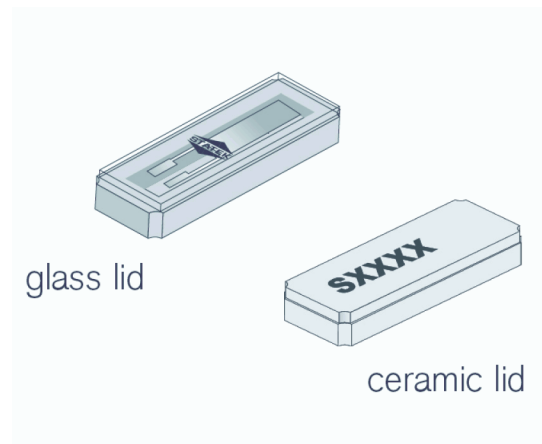


ISSUE 1; January 2016

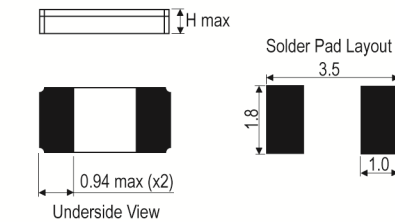
Description

- The CX11 AT quartz crystal is manufactured using Statek's photolithographic and chemical milling processes and then hermetically sealed within a ceramic package for high stability and low ageing. This crystal has a 3.2mm x 1.5mm footprint and a height less than 1.0mm. Available with tight calibration tolerances and high stability, this crystal is suitable for demanding applications.
- -C-SM1 Gold Plated with ceramic lid
- -C-SM4 Solder Plated (lead free) with ceramic lid
- -C-SM5 Solder Dipped (lead free) with ceramic lid
- -SM1 Gold Plated with glass lid
- -SM4 Solder Plated (lead free) with glass lid
- -SM5 Solder Dipped (lead free) with glass lid
- -T-SM1 Gold Plated with thin glass lid
- -T-SM4 Solder Plated (lead free) with thin glass lid
- -T-SM5 Solder Dipped (lead free) with thin glass lid
- FEATURES:
 - Ultra-miniature package
 - Ultra-low profile
 - Hermetically sealed package
 - Excellent ageing characteristics
 - Full military testing available
- APPLICATIONS:
 - Medical -
 - Medical Telemetry
 - Cardiac Rhythm Management
 - Medical Telemetry
 - Cochlear Implants
 - Infusion Pumps
 - Military & Aerospace -
 - Avionic Indicators and Instruments
 - Cockpit Instrumentation Displays
 - Data Communications
 - Survival radio
 - Industrial, Computer & Communications -
 - Communications
 - Transmitters
 - Pulse Generators
 - Tracking Beacons
 - Wildlife Telemetry
- Please note that all data is only valid at 25°C unless otherwise stated.



Outline (mm) -SM1 = Gold Plated with glass lid

	Height (H) = Glass Lid	Thin Lid	Ceramic Lid
SM1	0.87	0.77	0.90
SM2	0.89	0.79	0.92
SM3	0.94	0.84	0.97
SM4	0.89	0.79	0.92
SM5	0.94	0.84	0.97



Frequency Parameters

- Frequency 16.0MHz to 250.0MHz
- Frequency Tolerance ±30.00ppm to ±100.00ppm
- Tolerance Condition @ 25°C
- Frequency Stability ±10.00ppm to ±100.00ppm
- Ageing ±3ppm max in 1st year @ 25°C
- Note: Frequency Stability does not include Frequency Tolerance @ 25°C

Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: 0800 1808 443

France: 0800 901 383
USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com

Electrical Parameters

- Load Capacitance (CL) 9.0pF
- Shunt Capacitance (C0) 0.7pF typ @ 24MHz
- Drive Level 200µW max
- Typical Values:

Fundamental Frequency	16.0MHz	24.0MHz	155.52MHz
Motional Resistance R1 (Ω)	90	30	25
Motional Capacitance C1 (fF)	1.5	1.6	2.8
Quality Factor Q (k)	70	150	16
Shunt Capacitance C0 (pF)	0.7	0.7	1.4

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

Environmental Parameters

- Shock: 5000G, 0.3ms, half sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz swept sine
Note: Random vibration testing also available - please contact an IQD Sales Office
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

- Soldering Process Temperature: 260°C max for 20sec max

Ordering Information

- Frequency*
Model*
Lid Variant*
Termination Variant*
Frequency Tolerance (@ 25°C)*
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Load Capacitance*
Overtone
(*minimum required)
- Lid Variants:
Blank = Glass
T = Thin Glass
C = Ceramic
- Termination Variants:
SM1 = Gold Plated
SM4 = Solder Plated
SM5 = Solder Dipped
Note: non-RoHS compliant terminations are available - please contact an IQD Sales Office
- Example
24.0MHz CX11 AT-C-SM1
100/100/-55 to 125C/9 FUND

Compliance

- RoHS Status (2011/65/EU) Optional
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

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Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: Tray Tray pack
Pack Size: 1

Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
16.0MHz	250.0MHz	-10 to 70	±10	Fundamental	-
		-40 to 85	±20		-
		-55 to 125	±30		-

*Stability Maximum values ±100ppm

This document was correct at the time of printing; please contact your local sales office for the latest version.

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