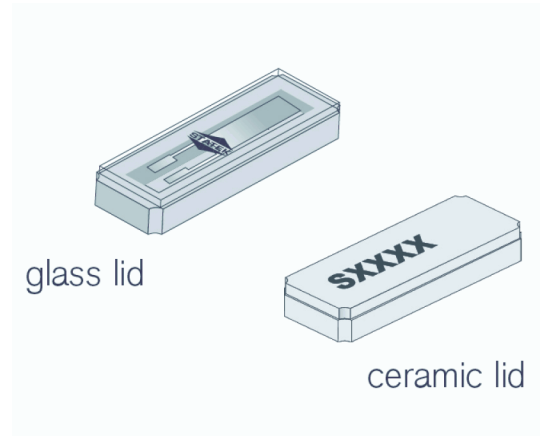


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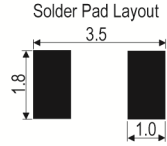
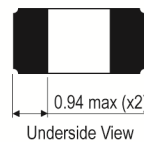
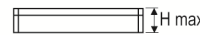
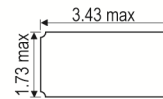
**Description**

- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. 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
- APPLICATIONS:
  - Medical -
    - Medical Telemetry
    - Cardiac Rhythm Management
    - Medical Telemetry
    - Cochlear Implants
    - Infusion Pumps
  - Aerospace -
    - Avionic Indicators and Instruments
    - Cockpit Instrumentation Displays
    - Data Communications
  - 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:**

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USA: +1 760 318 2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**Electrical Parameters**

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

	16.0MHz	24.0MHz	155.52MHz
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 DippedNote: 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 (2015/863/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	- 0
		-40 to 85	±20		- 0
		-55 to 125	±30		- 0

\*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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