

ISSUE 1; January 2016

Description

- IQD's miniature CX4 AT Statek crystals in a leadless ceramic package are designed for surface mounting on printed circuit boards or hybrid substrates. These crystals are low profile and have a very small land pattern.
- C-SM1 Gold Plated (lead free) Ceramic Lid
- C-SM4 Solder Plated (lead free) Ceramic Lid
- C-SM5 Solder Dipped (lead free) Ceramic Lid
- SM1 Gold Plated (lead free)
- SM4 Solder Plated (lead free)
- SM5 Solder Dipped (lead free)
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

- Frequency 14.0MHz to 250.0MHz
- Frequency Tolerance ±100.00ppm
- Tolerance Condition @ 25°C
- Frequency Stability ±10.00ppm to ±100.00ppm
- Ageing ±5pm max in 1st year @ 25°C
- Frequency Stability does not include Frequency Tolerance. The characteristics of the frequency stability over the operating temperature range follow that of the AT thickness-shear mode.
- Note:
 - Other Frequency Tolerances and Stabilities are available
 - Other Ageing characteristics are available
 - Other Load Capacitances are available
 - Please contact an IQD Sales Office for further information

Electrical Parameters

- Load Capacitance (CL) 10.0pF
- Shunt Capacitance (C0) 1.1pF typ @ 32MHz
- Drive Level 200µW max ≤50MHz, 100µW max >50MHz

Operating Temperature Ranges

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

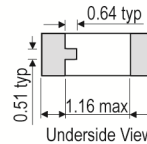
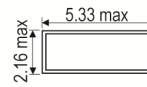
Environmental Parameters

- Shock: 5000G, 0.3ms, half sine wave (Note: Higher stock models also available - please contact an IQD Sales Office for further information)
- 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 for further information)
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

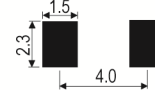
- Max Process Temperature: 260°C for 20sec

Outline (mm) -SM1 = Gold Plated (lead free)

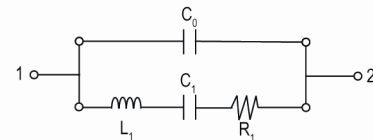


Height (H) =	Glass Lid	Ceramic Lid
SM1	1.14	1.27
SM2	1.17	1.30
SM3	1.22	1.35
SM4	1.17	1.30
SM5	1.22	1.35

Solder Pad Layout



Equivalent Circuit



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

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Ordering Information

- Frequency*
Model*
Lid*
Termination Variant*
Frequency Tolerance (@ 25°C)*
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Load Capacitance*
Overtone
(*minimum required)
- Lid Options:
Glass - blank
Ceramic - C
- Termination Variants:
Gold Plated - SM1
Solder Plated - SM4
Solder Dipped - SM5
(Note: non-RoHS compliant terminations are available - please contact an IQD Sales Office for further information)
- Example:
20.0MHz CX4 AT SM1
100/50/-10 to 70/10 FUND

Compliance

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

Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 1,000
- Pack Style: Tray Supplied on a tray
Pack Size: 1

Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
14.0MHz	250.0MHz	-10 to 70 -40 to 85 -55 to 125	±10 ±20 ±30	Fundamental	75

*Stability Maximum values ±100ppm

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