

ISSUE 1; January 2016

Description

- An increasing number of applications require the use of high temperature crystals. For these applications we offer the CX4HT AT. These crystals are designed to operate at temperatures up to and including 225°C. The frequency range offered is 14MHz to 250MHz. The expected life at 200°C is in excess of 1,000 hours.
- -C-SM1 Gold Plated (RoHS)
- -C-SM4 Solder Plated (RoHS)
- -C-SM5 Solder Dipped (RoHS)
- FEATURES:
High temperature operation up to 225°C
High shock resistance
Hermetically sealed ceramic package
- APPLICATIONS:
Industrial -
Downhole instrumentation
Rotary shaft sensors
Underground boring tools
- 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 ±125.00ppm to ±300.00ppm
- Ageing ±5pm max in 1st year at 25°C
- Note: Tighter Frequency Tolerances are available - please contact an IQD Sales Office

Electrical Parameters

- Load Capacitance (CL) 10.0pF
- Drive Level 200µW max <50MHz, 100µW max ≥50MHz
- Typical Motional Parameters:
Freq 16MHz: R 75Ω, C1 1.5fF, Co 0.9pF Q 90k
Freq 32MHz: R 30Ω, C1 2.5fF, Co 1.1pF Q 70k

Operating Temperature Ranges

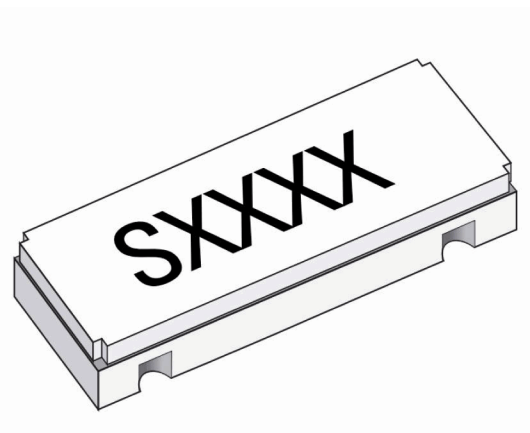
- -55 to 150°C
- -55 to 175°C
- -55 to 200°C
- 25 to 200°C
- -55 to 225°C
- 25 to 225°C

Environmental Parameters

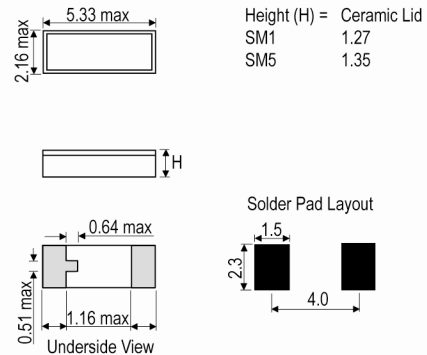
- Storage Temperature Range: -55 to 125°C
- Shock: 5000G, 0.3ms, 1/2 sine
- Vibration: 20G rms, 10-2000Hz
- Note: Higher Shock and Vibration requirements are available - please contact an IQD Sales Office

Manufacturing Details

- Maximum Process Temperature: 260°C (20secs max)



Outline (mm) -C-SM1 = Gold Plated (RoHS)



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Ordering Information

- Frequency*
- Model*
- Termination Variant*
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance
(*minimum required)
- Termination Variants:
SM1 = Gold Plated
SM4 = Solder Plated
SM5 = Solder Dipped
- Example
20.0MHz CX4HT AT-C-SM1
±100ppm ±175ppm -55 to 200C FUND

Compliance

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

Packaging Details

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

Electrical Specification - maximum limiting values

| Frequency Min | Frequency Max | Temperature Range | Stability Min* | Overtone Order | ESR |
|---------------|---------------|-------------------|----------------|----------------|-----|
| | | °C | ppm | | Ω |
| 14.0MHz | 250.0MHz | 25 to 200 | ±200 | Fundamental | - |
| | | 25 to 225 | ±300 | | - |
| | | -55 to 150 | ±125 | | - |
| | | -55 to 175 | ±150 | | - |
| | | -55 to 200 | ±175 | | - |
| | | -55 to 225 | ±250 | | - |

*Stability Maximum values ±300ppm

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