

ISSUE 1; December 2017

Description

- When miniaturisation is paramount, the CX20 quartz crystal is an excellent choice. Available in frequencies from 16MHz to 50MHz, this crystal has a typical footprint of 2.5 x 1.2mm, and a typical height of 0.5mm.
- -C-SM1 Ceramic Lid, Gold Plated (Lead Free)
- -C-SM4 Solder plated (Pb free)
- FEATURES:
 - Ultra-miniature footprint (2.5 x 1.2mm typical)
 - Low profile (0.5mm typical)
 - Hermetically sealed ceramic package
 - High shock and vibration survival
 - Excellent ageing characteristics
 - Full military testing available
- APPLICATIONS:
 - Ultra-Low Power Wireless Communications
 - Implantable Transceivers
 - Bluetooth Low Energy (BLE)
 - Medical Implant Communication Service (MICS)
 - Smart Munitions
 - Guidance and Navigation
 - Communication
 - Communications
 - Transmitters
 - Pulse Generators
 - Tracking Beacons
 - Wildlife Telemetry
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

- | | |
|-----------------------|-------------------------|
| ■ Frequency | 16.0MHz to 50.0MHz |
| ■ Frequency Tolerance | ±30.00ppm |
| ■ Tolerance Condition | @ 25°C |
| ■ Frequency Stability | ±10.00ppm to ±100.00ppm |
| ■ Ageing | ±3ppm max in 1st year |

Electrical Parameters

- | | |
|--|-----------|
| ■ Load Capacitance (CL) | 9.0pF |
| ■ Drive Level | 200µW max |
| ■ Motional Resistance R1: 150Ω typ @ 16MHz / 50Ω typ @ 24MHz | |
| ■ Motional Capacitance C1: 1.2fF typ @ 16MHz / 1.6fF typ @ 24MHz | |
| ■ Quality Factor Q: 60000 typ @ 16MHz / 80000 typ @ 24MHz | |
| ■ Shunt Capacitance Co: 0.7pF typ @ 16MHz / 0.8pF typ @ 24MHz | |

Operating Temperature Ranges

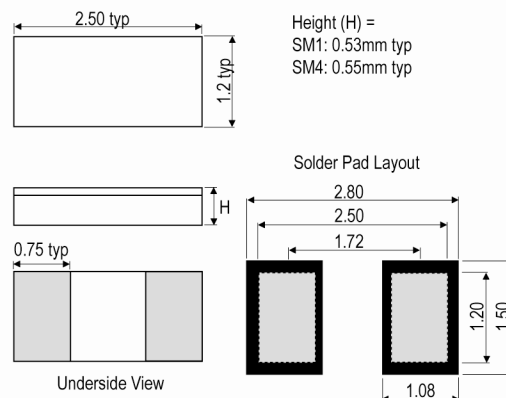
- -10 to 70°C
- -40 to 85°C
- -55 to 125°C

Environmental Parameters

- Shock: 5000G, 0.3ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz swept sine.
- Storage Temperature Range: -55 to 125°C



Outline (mm) -C-SM4 = Solder plated (Pb free)



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Manufacturing Details

- Maximum Process Temperature: 260°C for 20s

Ordering Information

- Frequency*
 - Model*
 - Lid
 - Termination
 - Frequency Tolerance (@25°C)*
 - Frequency Stability (over operating temperature range)*
 - Operating Temperature Range*
 - Load Capacitance*
 - Overtone
 - (*minimum required)
- Example:
 - 30.0MHz CX20-C-SM1
 - 30/50/-40 to 85C/9 FUND
- Other options are available for:
 - Frequency Tolerance
 - Frequency Stability
 - Frequency Stability inclusive of Frequency Tolerance
 - Operating Temperature Range
 - Load Capacitance
 - Random Vibration Testing
 - Please contact our sales offices.

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
16.0MHz	50.0MHz	-10 to 70	±10	Fundamental	-
		-40 to 85	±20		-
		-55 to 125	±30		-

*Stability Maximum values ±100ppm

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