

ISSUE 1; January 2016

Description

- An increasing number of applications require the use of high-temperature crystals. For these applications, Statek offers the CX9VHT crystals. These crystals are designed to operate at temperatures up to and including 200°C, and feature an expected life in excess of 1,000 hours at these temperatures. The frequency range offered is 32kHz to 160kHz for CX9VHT crystals.
- -SM1 SM1 (Gold Plated, Glass Lid, RoHS)
- -SM1-C SM1-C (Gold Plated, Ceramic Lid, RoHS)
- -SM5-C SM5-C (Solder Dipped, Ceramic Lid, RoHS)
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

- Frequency 32.0kHz to 160.0kHz
- Frequency Tolerance ±100.00ppm
- Tolerance Condition @ 25°C
- Ageing ±5ppm max in 1st year @ 25°C
- Frequency Stability Over Temperature = $(f(T)-F(T_0))/F(T_0) = k(T-T_0)^2$
 $f(T)$ = Frequency at temperature T
 T = Temperature
 T_0 = Turnover temperature
 F_0 = Frequency at turnover temperature T_0

Electrical Parameters

- Load Capacitance (CL) 9.0pF
- Shunt Capacitance (C0) 1pF typical
- Drive Level 0.5µW max
- Typical figures @ 32.768kHz
 Motional Resistance: 100kΩ @ 25°C, 125kΩ @ 150°C, 160kΩ @ 200°C,
 Motional Capacitance: 2.2fF
 Quality Factor Q 22k
 Turnover Temperature: 22°C

Frequency Adjustment

- Temperature Coefficient (k) -0.035 ppm/°C²

Operating Temperature Ranges

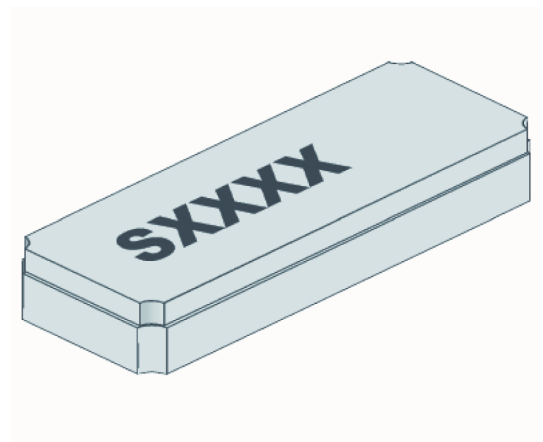
- 0 to 150°C
- 0 to 175°C
- 0 to 200°C

Environmental Parameters

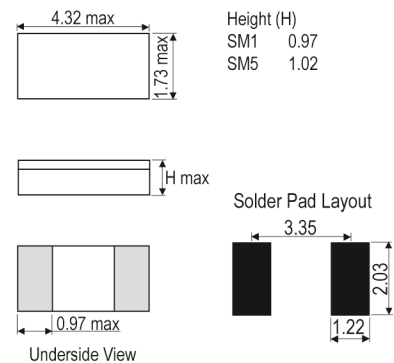
- Shock: 5000G, 0.3 ms, 1/2 sine
- Vibration: 20G rms, 10-2000 Hz random
- Storage Temperature Range: -55 to 125°C

Manufacturing Details

- Max Process Temperature 260°C for 20 sec



Outline (mm) -SM1 = SM1 (Gold Plated, Glass Lid, RoHS)



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Ordering Information

- Minimum Required*
Frequency*
Model*
Termination Variant*
Frequency Tolerance (@25°C)*
Operating Temperature Range*
Load Capacitance
- Example:
100.0kHz CX9VHT TF-SM1
±100ppm 0+200C 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 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
32.000kHz	160.00kHz	0 to 200		Fundamental	-

*Stability Maximum values ±0ppm

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