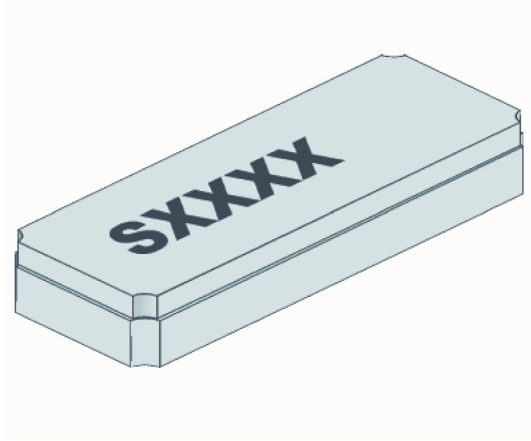
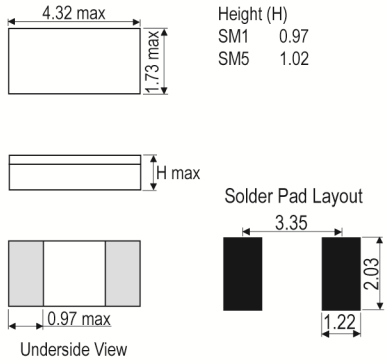
ISSUE 1; January 2016

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 200ºC, 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.



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



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(To))/F(To) = k(T-To)²
  f(T) = Frequency at temperature T
  T = Temperature
  To = Turnover temperature
  Fo = Frequency at turnover temperature To

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

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Ordering Information

- Minumum 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*

This document was correct at the time of printing; please contact your local sales office for the latest version.
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