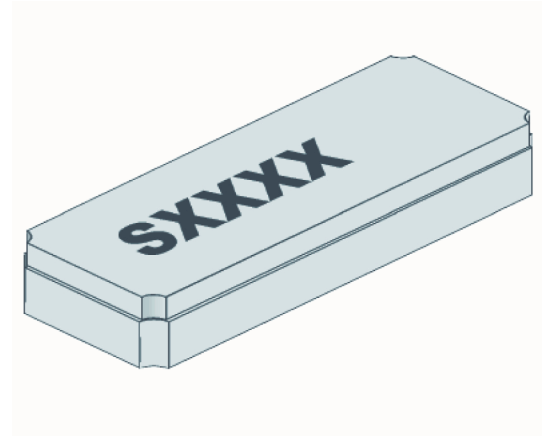


**ISSUE 1; June 2019**

**Description**

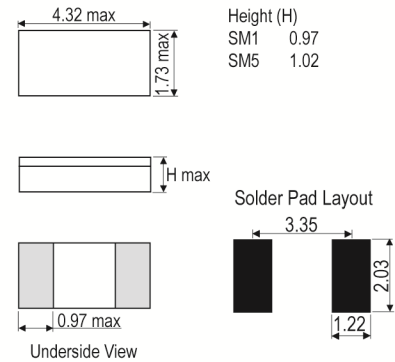
- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. An increasing number of applications require the use of high-temperature crystals. For these applications, Statek offers the CX9VHT crystals. These crystals are designed to operate at temperatures 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  $T_0$

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



**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/°C<sup>2</sup>

**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

**Sales Office Contact Details:**

UK: +44 (0)1460 270200

USA: +1 760 318 2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**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 (2015/863/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	- 0

\*Stability Maximum values ±0ppm

*This document was correct at the time of printing; please contact your local sales office for the latest version.*  
[Click to view latest version on our website.](#)

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USA: +1 760 318 2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)