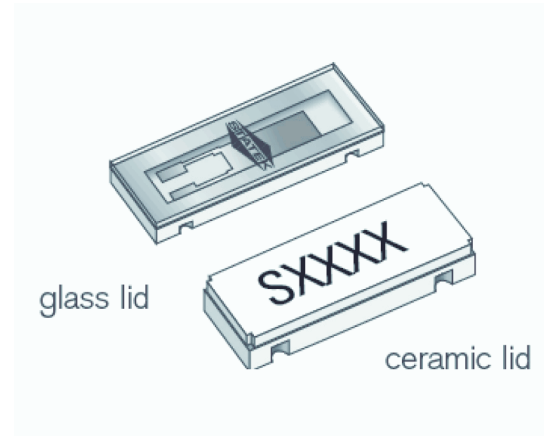


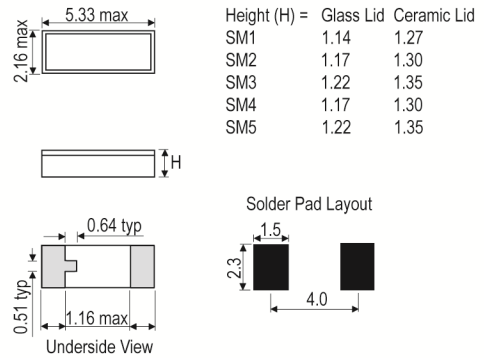
ISSUE 1; October 2020

**Description**

- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. Intended for applications requiring shock survivability up to 100,000G, the surface-mount CX4HG crystal is a high-shock versions of the CX4 crystal.
- 1-C-SM1 10000G, Gold plated, ceramic lid
- 1-C-SM4 10000G, Solder plated (lead free), ceramic lid
- 1-C-SM5 10000G, Solder dipped (lead free), ceramic lid
- 1-SM1 10000G, Gold plated, glass lid
- 1-SM4 10000G, Solder plated (lead free), glass lid
- 1-SM5 10000G, Solder dipped (lead free), glass lid
- 2-C-SM1 20000G, Gold plated, ceramic lid
- 2-C-SM4 20000G, Solder plated (lead free), ceramic lid
- 2-C-SM5 20000G, Solder dipped (lead free), ceramic lid
- 2-SM1 20000G, Gold plated, glass lid
- 2-SM4 20000G, Solder plated (lead free), glass lid
- 2-SM5 20000G, Solder dipped (lead free), glass lid
- 3-C-SM1 30000G, Gold plated, ceramic lid
- 3-C-SM4 30000G, Solder plated (lead free), ceramic lid
- 3-C-SM5 30000G, Solder dipped (lead free), ceramic lid
- 3-SM1 30000G, Gold plated (lead free), glass lid
- 3-SM4 30000G, Solder plated (lead free), glass lid
- 3-SM5 30000G, Solder dipped (lead free), glass lid
- 4-C-SM1 50000G, Gold plated, ceramic lid
- 4-C-SM4 50000G, Solder plated (lead free), ceramic lid
- 4-C-SM5 50000G, Solder dipped (lead free), ceramic lid
- 4-SM1 50000G, Gold plated, glass lid
- 4-SM4 50000G, Solder plated (lead free), glass lid
- 4-SM5 50000G, Solder dipped (lead free), glass lid
- 5-C-SM1 75000G, Gold plated, ceramic lid
- 5-C-SM4 75000G, Solder plated (lead free), ceramic lid
- 5-C-SM5 75000G, Solder dipped (lead free), ceramic lid
- 5-SM1 75000G, Gold plated, glass lid
- 5-SM4 75000G, Solder plated (lead free), glass lid
- 5-SM5 75000G, Solder dipped (lead free), glass lid
- 6-C-SM1 100000G, Gold plated, ceramic lid
- 6-C-SM4 100000G, Solder plated (lead free), ceramic lid
- 6-C-SM5 100000G, Solder dipped (lead free), ceramic lid
- 6-SM1 100000G, Gold plated, glass lid
- 6-SM4 100000G, Solder plated (lead free), glass lid
- 6-SM5 100000G, Solder dipped (lead free), glass lid



**Outline (mm) 1-SM1 = 10000G, Gold plated, glass lid**



**Sales Office Contact Details:**

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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)

- **FEATURES:**
  - High shock and vibration resistance
  - Designed for surface mount applications using infrared, vapour phase or epoxy mount techniques
  - Low profile
  - Hermetically sealed ceramic package
  - Available with glass or ceramic lid
  - Custom designs available
- **APPLICATIONS:**
  - Industrial & Communications -
    - Down-hole Data Recorder
    - Process Control
    - Environmental Control
    - Engine Control
    - Telemetry
  - Ruggedised Instrumentation
  - Automotive Control
  - Aerospace -
    - Surveillance Devices
    - Ruggedised Communications
    - Aviation Equipment
- Please note that all data is only valid at 25°C unless otherwise stated.

#### Frequency Parameters

- Frequency 14.0MHz to 50.0MHz
- Frequency Tolerance ±100.00ppm
- Tolerance Condition @ 25°C
- Frequency Stability ±10.00ppm to ±100.00ppm
- Ageing ±10ppm max in 1st year @ 25°C
- Frequency Stability does not include Frequency Tolerance @ 25°C
- Note: Other frequencies and other frequency stabilities are available, also lower ageing available at low shock levels - please contact an IQD Sales Office

#### Electrical Parameters

- Load Capacitance (CL) 10.0pF
- Shunt Capacitance (C0) 1pF typ
- Drive Level 200µW max
- Fundamental Frequency 14.7456MHz 16MHz 20MHz 32MHz 40MHz
- Motional Resistance R1 (Ω)
 

60	75	50	30
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- Motional Capacitance C1 (fF)
 

1.4	1.5	1.4	2.5
-----	-----	-----	-----
- Quality Factor Q (k)
 

120	90	110	70
-----	----	-----	----
- Shunt Capacitance C0 (pF)
 

0.8	0.9	0.9	1.1
-----	-----	-----	-----

#### Operating Temperature Ranges

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

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#### Environmental Parameters

- Shock: Up to 100,000G, 0.5 ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2,000 Hz swept sine  
Note: Random vibration testing also available - please contact an IQD Sales Office
- Storage Temperature Range: -55 to +125°C

#### Manufacturing Details

- Maximum Process Temperature: 260°C for 20sec max

#### Ordering Information

- Frequency\*  
Model\*  
Shock Level\*  
Lid Variant\*  
Termination Variant\*  
Frequency Tolerance (@ 25°C)\*  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Load Capacitance  
(\*minimum required)
- Shock Level Options:  
HG1 = 10000G  
HG2 = 20000G  
HG3 = 30000G  
HG4 = 50000G  
HG5 = 75000G  
HG6 = 100000G
- Lid Variants:  
Blank = Glass  
C = Ceramic
- Termination Variants:  
SM1 = Gold Plated  
SM4 = Solder Plated  
SM5 = Solder Dipped  
Note: non-RoHS compliant terminations are available - please contact an IQD Sales Office
- Example  
20.0MHz CX4HG1-SM1  
100/100/-40 to 85C/10 FUND

#### Compliance

- RoHS Status (2015/863/EU)      Optional
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

#### Packaging Details

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

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**Electrical Specification - maximum limiting values**

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Over Tone Order	ESR
		°C	ppm		Ω
14.0MHz	50.0MHz	-10 to 70	±10	Fundamental	- 0
		-40 to 85	±20		- 0
		-55 to 125	±30		- 0

\*Stability Maximum values ±100ppm

*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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