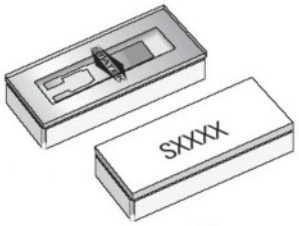
EUROQUARTZ

CX1HGSM AT CRYSTAL

High Shock Miniature SMD AT Quartz Crystal 6MHz to 250MHz

FEATURES

- High shock and vibration resistance
- Designed for infrared, vapour phase or epoxy mounting
- Low profile, hermetically sealed ceramic package
- Excellent ageing characteristics
- Full military testing available
- Available with glass or ceramic lid
- Custom designs available



DESCRIPTION

CX1HGSM AT crystals are leadless devices designed for surface mounting.the crystals are hermetically sealed in a rugged, ceramic package. These crystals are designed for applications requiring exceptional shock and vibration survival characteristics. Designed and manufactured by Statek Inc.

APPLICATIONS

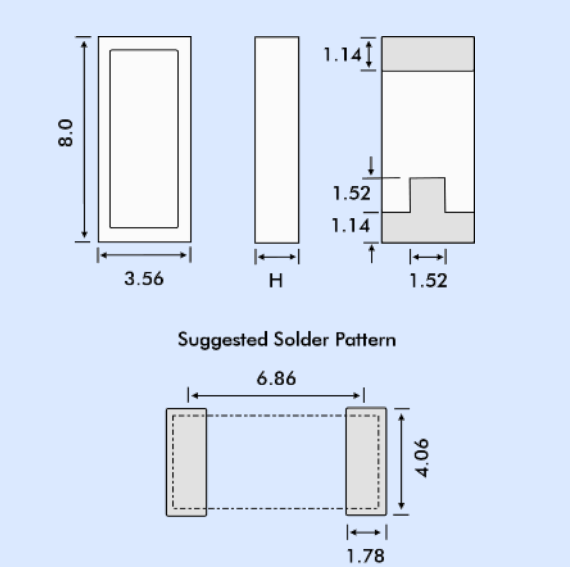
Industrial

- Down-hole data recorder
- Process control
- Environmental Control
- Engine Control
- Telemetry
- Ruggedized instrumentation
- Automotive control

Military & Aerospace

- Smart munitions
- Timing devices (fuses)
- Surveillance Devices
- Missile Telemetry
- Ruggedized communications
- Aviation equipment

OUTLINE & DIMENSIONS



DIMENSION 'H'

Terminations	Glass Lid	Ceramic Lid
SM1	1.65	1.78
SM2/SM4	1.70	1.83
SM3/SM5	1.78	1.90

TERMINATIONS - PLATING

Designation	Termination
SM1	Gold Plated (Lead Free)
SM2	Solder Plated
SM3	Solder Dipped
SM4	Solder Plated (Lead Free)
SM5	Solder Dipped (Lead Free)

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SPECIFICATION

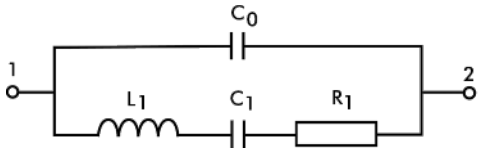
Specifications stated are typical at 25°C unless otherwise indicated.
Specifications may change without notice.

Fundamental Frequency:	10.0MHz	32.0MHz	155.52MHz
Motional Resistance R (Ω):	30	25	15
Motional Capacitance C1 (fF):	5.5	6.2	4.0
QualityFactor Q (k):	100	30	30
Shunt Capacitance C0 (pF):	2.2	2.3	2.3

Calibration Tolerance[1]:	±100ppm or tighter as required
Load Capacitance[2]:	20pF for fr. <50MHz 10pF for fr. >50MHz
Drive Level:	500µW max. for fr. <50MHz 200µW max. for fr. <50MHz
Temperature Stability[3]	
Commercial -10 ~ +60°C:	±50ppm to ±10ppm
Industrial -40 to +85°C:	±100ppm to ±20ppm
Military -55 to +125°C:	±100ppm to ±30ppm
Ageing, first year[4]:	10ppm max.
Shock, survival[5]:	10,000g, 0.2ms, ½ sine
Vibration, survival[6]:	50g, 10~2000Hz swept sine
Operating Temperature Range	
Commercial:	-10° to +70°C
Industrial:	-40° to +85°C
Military:	-55 to +125°C
Storage Temperature Range:	-55° to +125°C
Maximum Process Temperature:	+260°C for 20 seconds

1. *Other tolerances available, contact Euroquartz sales.*
2. *Unless specified otherwise.*
3. *Does not include calibration tolerance. The characteristicsof the frequency stability over temperature follow that of the AT thickness-shear mode.*
4. *10ppm max. for frequencies below 40MHz For tighter tolerances and higher frequencies contact Euroquartz sales.*
5. *Up to 100,000g, contact Euroquartz sales.*
6. *Per MIL-STD-202G, Method 204D, Condition E. Random vibration testing also available.*

CRYSTAL EQUIVALENT CIRCUIT



R1 Motional Resistance
C1 Motional Capacitance
L1 Motional Inductance
C0 Shunt Capacitance

PACKAGING OPTIONS

CX1HGSM crystals are available either tray packed (<250pcs) or tape and reel (>250 pieces).
16mm tape, 178mm or 330mm reels (EIA 418).

HOW TO ORDER CX1HGSM AT CRYSTALS

CX1 - S - HG - C - SM1 - 32.0M 100 / 100 / I

'S' if special, custom design. Otherwise leave blank	Blank = glass lid C = ceramic lid	Terminations SM1 = Gold plated * SM2 = Solder plated SM3 = Solder dipped SM4 = Solder plated * SM5 = Solder dipped * * = Lead free	Frequency M = MHz	Calibration Tolerance @25°C (in ppm)	Frequency Stability over Temp. Range (in ppm)	Temp. Range C = -10° ~ +70°C I = -40° ~ +85°C M = -55° ~ +125°C S = Customer specified

May be specified as – / – / 200 / I
where '200' indicates an overall total frequency tolerance in ppm.

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