

FEATURES

- Very high shock and vibration survival
- Designed for surface mount applications, including infrared, vapour phase or epoxy mount techniques
- Hermetically sealed ceramic package
- Excellent ageing characteristics
- Available with glass or ceramic lid
- Custom designs available
- Full Military testing available

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):	60	25	10
Motional Capacitance C1 (fF):	2.8	6.2	4.0
Quality Factor Q (k):	95	30	30
Shunt Capacitance C0 (pF):	1.4	2.3	2.3

Calibration Tolerance¹: ± 100 ppm or tighter as required

Load Capacitance²: 20pF for fr. <50MHz
10pF for fr. >50MHz

Drive Level: 500 μ W max. for fr. <50MHz
200 μ W max. for fr. <50MHz

Temperature Stability³

Commercial -10 ~ +60°C: ± 50 ppm to ± 10 ppm

Industrial -40 to +85°C: ± 100 ppm to ± 20 ppm

Military -55 to +125°C: ± 100 ppm to ± 30 ppm

Ageing, first year⁴: 5ppm max.
Better than ± 1 ppm is available

Shock, survival⁵: Up to 20,000g, 0.3ms, 1/2 sine

Vibration, survival⁶: 20g, 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 characteristics of the frequency stability over temperature follow that of the AT thickness-shear mode.

4. 5ppm max. for frequencies below 40MHz For tighter tolerances and higher frequencies contact Euroquartz sales.

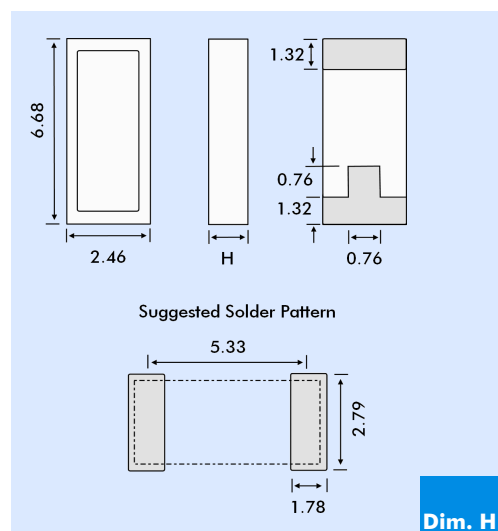
5. Higher shock version available. See CX1HGSM

6. Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.

DESCRIPTION

CX3HGSM AT crystals in leadless ceramic packages are designed for surface mounting on PCB or hybrid substrates. The small footprint, low profile crystal has been designed for applications requiring high shock and vibration survival.

OUTLINE & DIMENSIONS

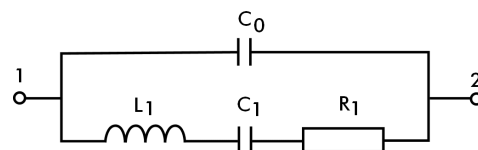


Dim. H	Glass Lid	Ceramic Lid
SM1	1.35	1.70
SM2	1.40	1.75
SM3	1.47	1.83
SM4	1.40	1.75
SM5	1.47	1.83

PACKAGING OPTIONS

CX3HGSM AT crystals are available either tray packed (<250pcs) or tape and reel (>250 pieces).
16mm tape, 178mm or 330mm reels (EIA 418).

CRYSTAL EQUIVALENT CIRCUIT



R1 Motional Resistance

L1 Motional Inductance

C1 Motional Capacitance

C0 Shunt Capacitance

HOW TO ORDER CX3HGSM AT CRYSTALS

CX3 - S - HG1 - C - SM1 - 32.0M , 100 / 100 / - / I

'S' if special, custom design. Otherwise leave blank

HG1 = 10,000g
HG2 = 20,000g

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