EUROQUARTZ

CX6SM AT CRYSTAL

Ultra Miniature Low Profile SMD Crystal 9.6MHz to 250MHz

FEATURES

- **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**
- **Higjh shock and vibration resistance**
- **Custom designs available**
- **Full Military testing available**

DESCRIPTION

CX6SM AT crystals in leadless ceramic packages are designed for surface mounting on PCB or hybrid substrates. The small footprint, low profile, ultra-miniature crystal is ideal for a wide range of commercial, industrial, medical and defence/aerospace applications.

SPECIFICATION

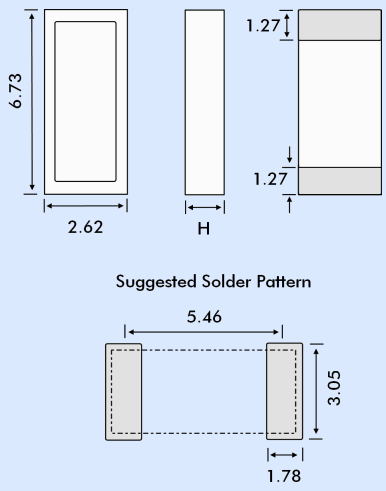
Specifications stated are typical at 25°C unless otherwise indicated.
Specifications may change without notice.

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
QualityFactor Q (k):	95	30	30
Shunt Capacitance C0 (pF):	1.4	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]:	5ppm max. *Better than ±1ppm is available*
Shock, survival[5]:	3,000g, 0.3ms, ½ sine
Vibration, survival[6]:	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. *10ppm max. for frequencies below 40MHz For tighter tolerances and higher frequencies contact Euroquartz sales.*
5. *Higher shock version available.*
6. *Per MIL-STD-202G, Method 204D, Condition D. Random vibration testing also available.*

OUTLINE & DIMENSIONS

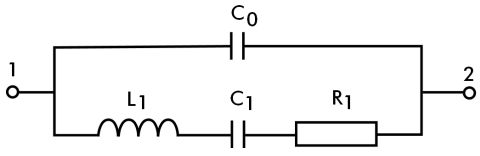


Dim. H	Glass Lid	Ceramic Lid
SM1	0.99	1.35
SM2	1.04	1.40
SM3	1.12	1.47
SM4	1.04	1.40
SM5	1.12	1.47

PACKAGING OPTIONS

CX6SM 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
C1 Motional Capacitance
L1 Motional Inductance
C0 Shunt Capacitance

HOW TO ORDER CX6SM AT CRYSTALS

CX6 - S - C - SM1 - 32.0M , 100 / 100 / - / I

- **S** — 'S' if special, custom design. Otherwise leave blank
- **C** — Blank = glass lid; C = ceramic lid
- **SM1** — Terminations: SM1 = Gold plated *; SM2 = Solder plated; SM3 = Solder dipped; SM4 = Solder plated *; SM5 = Solder dipped *; * = Lead free
- **32.0M** — Frequency: M = MHz
- **100** — Calibration Tolerance @25°C (in ppm)*
- **100** — Frequency Stability over Temp. Range (in ppm)*
- **I** — Temp. Range: C = -10° ~ +70°C; I = -40° ~ +85°C; M = -55° ~ +125°C; S = Customer specified

*Alternative 'total' tolerance (in ppm)

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