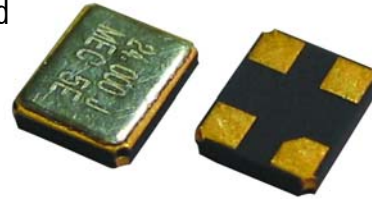




- Gold-plated ceramic base with metal lid seam welded package
- Extremely low aging. Specifically designed for hand-held communication equipment, PDAs, GPS and Bluetooth.
- High shock and vibration resistance.



SPECIFICATIONS

Crystal Holder Prefix ❶:	X32 series		
Frequency Range ❷:	12.0 ~52.0 MHz AT-cut Fundamental mode		
Calibration Tolerance ❸:	±10 ppm (±0.001 %), or ±30 ppm (±0.003 %) at 25°C		
Frequency Stability ❹:	Tightest stability over operating temperature		
Operating Temperature Range ❺	±10 ppm (±0.001 %): -20°C to +70°C; ±20 ppm (±0.002 %): -40°C to +85°C. Contact Mercury for other spec.		
Shunt Capacitance (C₀):	2.0~4.0 pF typical, 5 pF maximum		
Equivalent Series Resistance: (E.S.R.) ❻	Frequency	Vibration Mode	E.S.R. max.
	12.0~18.99 MHz	AT fundamental	100 Ω
	19.0~29.99 MHz	AT fundamental	80 Ω
	30.0~52.0 MHz	AT fundamental	60 Ω
Load Capacitance (C_L) ❼:	Series (S) or		
	Parallel: Please specify C _L value, typical C _L ranges from 9 to 32pF)		
Drive Level:	10 μW typical, 50 μW max.		
Aging:	Less than ±3 ppm per year at +25°C		
Reflow Soldering:	10 seconds maximum at +260°C two times or 180 seconds at 230°C one time		

Note: Tighter tolerance, tighter stability and lower ESR are available.

MERCURY www.mercury-crystal.com

Taiwan: TEL (886)-2-2406-2779, FAX (886)-2-2496-0769, e-mail: sales-tw@mercury-crystal.com
 U.S.A.: TEL (1)-909-466-0427, FAX (1)-909-466-0762, e-mail: sales-us@mercury-crystal.com



STANDARD FREQUENCIES AND PART NUMBERS (partial frequency list only. Frequency tolerance, frequency stability and ESR can be specified per your requirements).

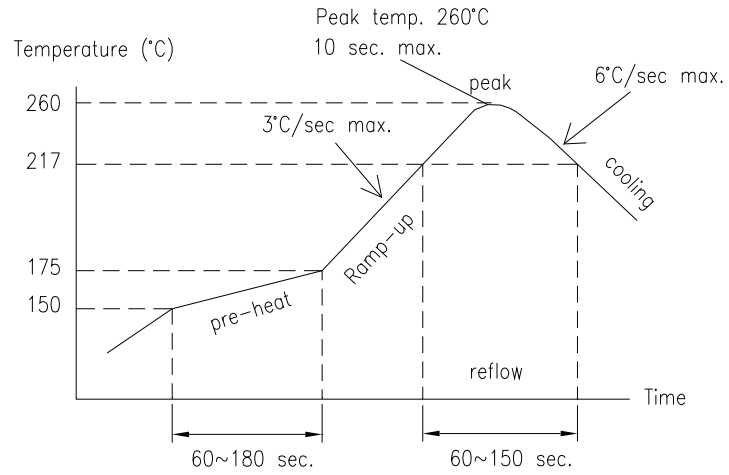
MEC Part Number	MEC Specification Code
X32-16.000-16P	20/20/-20+70/100R
X32-16.384-16P	20/20/-20+70/100R
X32-18.432-16P	20/20/-20+70/100R
X32-19.200-16P	20/20/-20+70/80R
X32-20.000-20P	20/20/-20+70/80R
X32-22.2184-10P	20/20/-20+70/80R
X32-24.000-10P	20/20/-20+70/80R
X32-24.576-10P	20/20/-20+70/80R
X32-25.000-10P	20/20/-20+70/80R
X32-27.000-10P	20/20/-20+70/80R

MEC Part Number	MEC Specification Code
X32-28.375-10P	20/20/-20+70/80R
X32-28.63636-10P	20/20/-20+70/80R
X32-29.4912-10P	20/20/-20+70/80R
X32-30.000-10P	20/20/-20+70/60R
X32-32.000-10P	20/20/-20+70/60R
X32-32.768-10P	20/20/-20+70/60R
X32-33.000-10P	20/20/-20+70/60R
X32-35.2512-S	20/20/-20+70/60R
X32-40.000-10P	20/20/-20+70/60R

ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS

Green Requirement	RoHS compliant and Pb (lead free)
Storage Temperature	-40°C to +85°C
Gross Leak	1 Kg Pressurized water immersion test per Mercury internal procedures
Fine Leak	< 5 x10 ⁻⁸ atm cc /sec by helium leak check
Shock	±5 ppm max. Free drop 3 times from 75 cm height onto a hard wooden board or half sine wave acceleration of 100G peak amplitude for 11 m. sec. duration, 3 cycles each plane.
Vibration	±5 ppm max. Frequency:10 to 55 Hz, amplitude: 1.5 mm or 10 Gs rms. Duration: 6 hours.
Solderability	MIL-STD-883, Method 2003
Humidity	After 48 hours at 85°C, 85% relative humidity non-condensing
Thermal Shock	Temperature cycling: Exposed at -40°C for 30 minutes then to +85°C for 30 minutes for duration of 5 days
Marking Permanency	MIL-STD-202, Method 215. Laser engraved.
Insulation Resistance	500 MΩ min. at 100 V±15 V DC

RECOMMENDED REFLOW SOLDERING PROFILE:



TAPE AND REEL SPEC.:

3000 pcs per reel.

unit: mm

