

FEATURES

- Frequency range 12MHz to 60MHz, fundamental mode
- Ultra-small package 3.2mm x 2.5mm x 0.6mm
- Packaged in standard EIA tape and reel
- Ideal for PDAs, hand-held GPS, PCMCIA etc.

DESCRIPTION

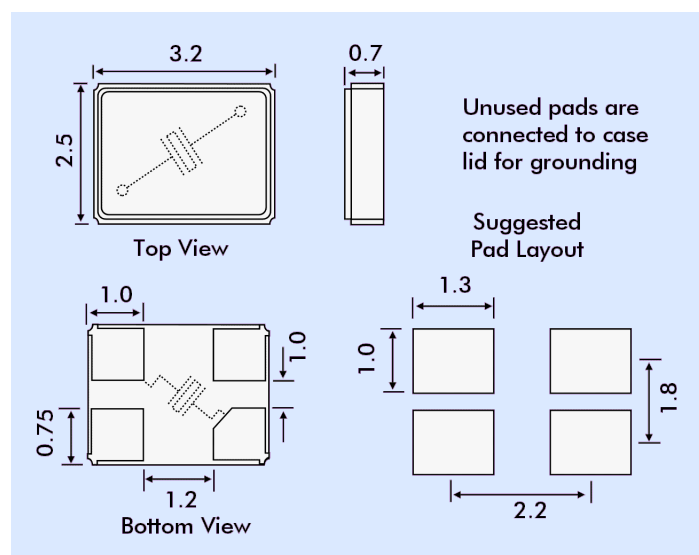
X32 crystals are ultra-miniature AT-cut crystals covering the frequency range 12MHz to 60MHz in fundamental mode and up to 150MHz in 3rd overtone mode. Their small size and low mass makes these crystals ideal for miniaturized hand-held equipment and similar high-density applications.

SPECIFICATION

Frequency Range:	12.0MHz to 60.0MHz
Operating Mode:	AT-Cut Fundamental:
Calibration Tolerance at 25°C*:	from ±5ppm (±10, ±20 or ±30ppm standard)
Frequency stability*	
-10° to +60°C	from ±5ppm
-20° to +70°C	from ±10ppm
-40° to +85°C	from ±15ppm
Storage Temperature:	-40°~+85°C
Equivalent Series Resistance:	See table
Shunt Capacitance (C0):	2pF to 4pF typical, 5pF maximum
Load Capacitance (CL):	Series or from 8pF to 32pF (Customer specified CL)
Ageing:	<±3ppm per year at +25°C
Drive level:	10 μW typical, 100μW maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	12mm EIA tape and reel



OUTLINE & DIMENSIONS



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

STANDARD PART NUMBERS AND SPECIFICATIONS

Frequency (MHz)	CL (pF)	Euroquartz Part Number	Tolerance (±ppm)/ Stability (±ppm)/ Temp. Range (°C)/ Max. ESR (Ohms)
16.0000	12	X32-16000-12	30/50/-20+70/100R
16.3840	12	X32-16384-12	30/50/-20+70/100R
20.0000	12	X32-20000-12	30/50/-20+70/100R
20.5720	12	X32-20572-12	30/50/-20+70/50R
20.9450	12	X32-20945-12	30/50/-20+70/50R
24.5500	12	X32-24550-12	30/50/-20+70/50R
24.5760	12	X32-24576-12	30/50/-20+70/50R
29.4912	12	X32-29491-12	30/50/-20+70/50R
32.0000	12	X32-32000-12	30/50/-20+70/50R
32.7680	12	X32-32768-12	30/50/-20+70/50R
40.0000	12	X32-40000-12	30/50/-20+70/50R
48.0000	12	X32-48000-12	30/50/-20+70/50R
50.0000	12	X32-50000-12	30/50/-20+70/50R

PART NUMBER GENERATION

Part numbers for X32 crystals are generated as follows:

