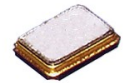


- Frequency range 12MHz to 60MHz, fundamental mode
- Ultra-miniature package 3.2mm x 2.5mm x 0.7mm
- Packaged in standard EIA tape and reel
- Ideal for PDAs, hand-held GPS, PCMCIA etc.
- The crystal unit is grounded via metal lid and base pads



## 3.2 x 2.5 x 0.7mm SMD



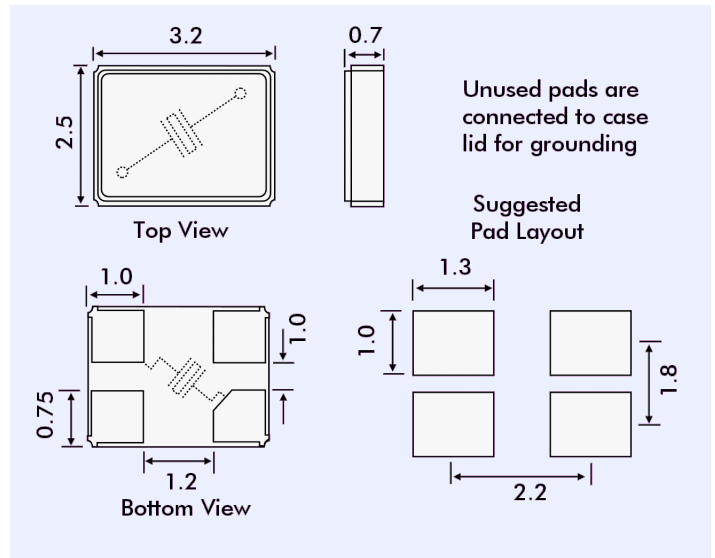
### DESCRIPTION

X32 crystals are ultra-miniature, AT-cut crystals covering the frequency range 12MHz to 60MHz in fundamental 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
Calibration Tolerance at 25°C:	±10ppm, ±20ppm, ±30ppm
Frequency stability	
-10° to +60°C	from ±5ppm
-20° to +70°C	from ±10ppm
-40° to +85°C	from ±15ppm
Storage Temperature:	-50°~+105°C
Equivalent Series Resistance:	See table
Shunt Capacitance (C0):	2pF to 4pF typical, 5pF maximum
Load Capacitance (CL):	Series or from 8pF to 32pF (12pF standard)
Ageing:	< ±3ppm per year at +25°C
Drive level:	100 microW maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	16mm EIA tape and reel 1000 pieces per reel
RoHS Status:	Compliant and lead free

### OUTLINE & DIMENSIONS



### EQUIVALENT SERIES RESISTANCE

Frequency Range MHz	ESR Ohms Max.
12.0~20.0	100
20.01~60.0	60

### PART NUMBER FORMAT

