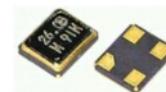


- Frequency range 20MHz to 54MHz, fundamental mode
- Ultra-miniature package 2.0 x 1.6 x 0.6mm
- Packaged in standard EIA tape and reel
- Exceptionally low ageing
- High shock and vibration resistance
- Ideal for PDAs, hand-held GPS, PCMCIA etc.



DESCRIPTION

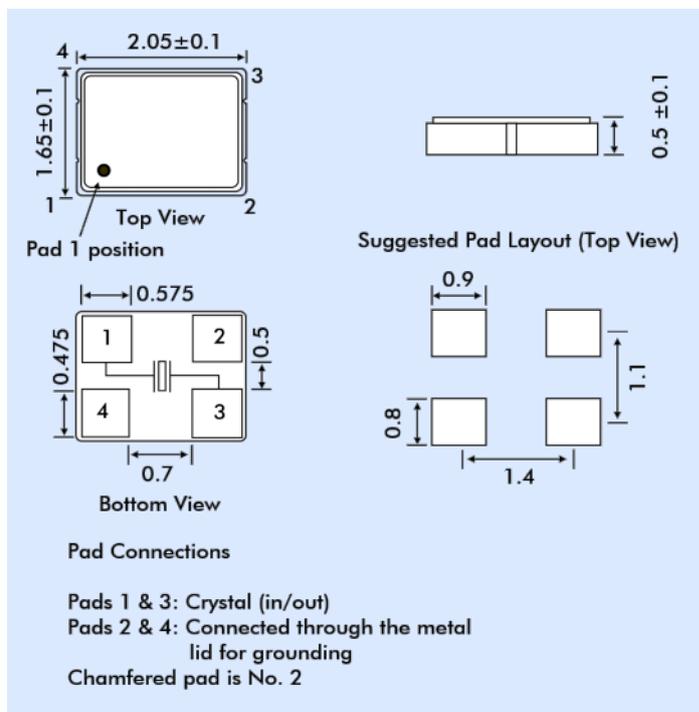
X21 crystals are ultra-miniature AT-cut crystals covering the frequency range 20MHz to 54MHz in fundamental mode. Their exceptionally small size (2.0 x 1.6mm) and low mass coupled with high shock and vibration resistance makes these crystals ideal for miniaturized handheld equipment and similar high-density applications.

SPECIFICATION

Frequency Range	20.0MHz to 54.0MHz
AT-Cut Fundamental:	20.0MHz to 54.0MHz
Calibration Tolerance at 25°C:	±10ppm, ±20ppm or ±30ppm
Frequency stability	
-10° to +60°C	from ±5ppm (contact Euroquartz)
-20° to +70°C	from ±10ppm
-40° to +85°C	from ±15ppm
Storage Temperature:	-50°~+105°C
Equivalent Series Resistance:	See table
Load Capacitance (CL):	Series or from 8pF to 32pF
Ageing:	<±3ppm per year at +25°C
Drive level:	10 µW typ., 100 µW max.
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	EIA tape and reel

Note: The entire crystal package may be grounded via the top metal lid and pads 2 and 4 on the underside of the unit.

OUTLINE & DIMENSIONS



* Note: These parts may be supplied with the chamfered pad in different positions. However, the crystal connection is always as shown above.

EQUIVALENT SERIES RESISTANCE

Frequency Range MHz	ESR Ω Max.
20.0~23.999	120
24.0~29.999	100
30.0~37.999	80
38.0~54.000	60

PART NUMBER GENERATION

Part numbers for X21 crystals are generated as follows:

