

- Frequency range 20MHz to 54MHz, fundamental mode
- Ultra-miniature package 2.05 x 1.65 x 0.6mm
- Packaged in standard EIA tape and reel
- Ideal for PDAs, hand-held GPS, PCMCIA etc.
- Extremely low ageing and shock & vibration resistance



2.05 x 1.65 x 0.6mm SMD



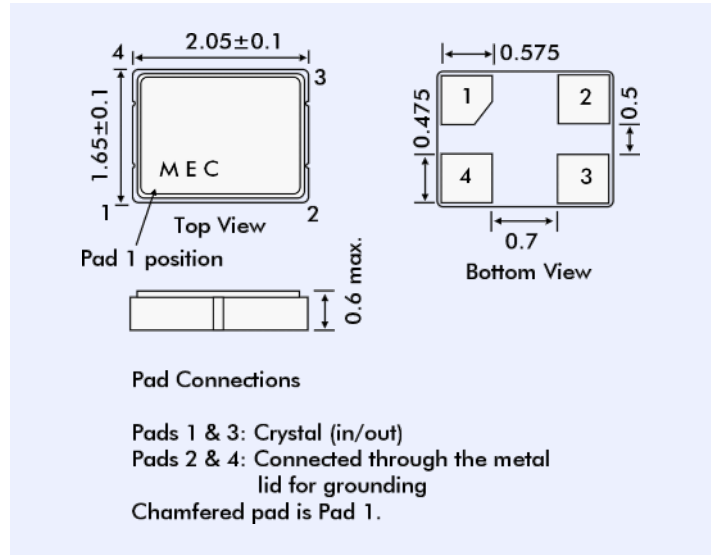
DESCRIPTION

X21 crystals are ultra-miniature AT-cut crystals covering the frequency range 20.0MHz to 54.0MHz in fundamental mode. The X21 crystal package is grounded via the top metal lid and two solder pads. The part exhibits very low ageing and has high shock and vibration resistance. The small size and low mass makes these crystals ideal for miniaturized hand-held equipment and similar high-density applications.

SPECIFICATION

Frequency Range	AT-Cut Fundamental: 20.0MHz to 54.0MHz	
Calibration Tolerance at 25°C:	±10ppm, ±20ppm, ±30ppm	
Frequency stability	See table	
-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	
Ageing:	<±3ppm per year at +25°C	
Drive level:	10µW typical, 100µW max.	
Reflow Soldering:	10s maximum at 260°C twice or once 180s at 230°C.	
Packaging:	EIA tape and reel	

OUTLINE & DIMENSIONS



FREQUENCY STABILITY vs. OPERATING TEMPERATURE RANGE

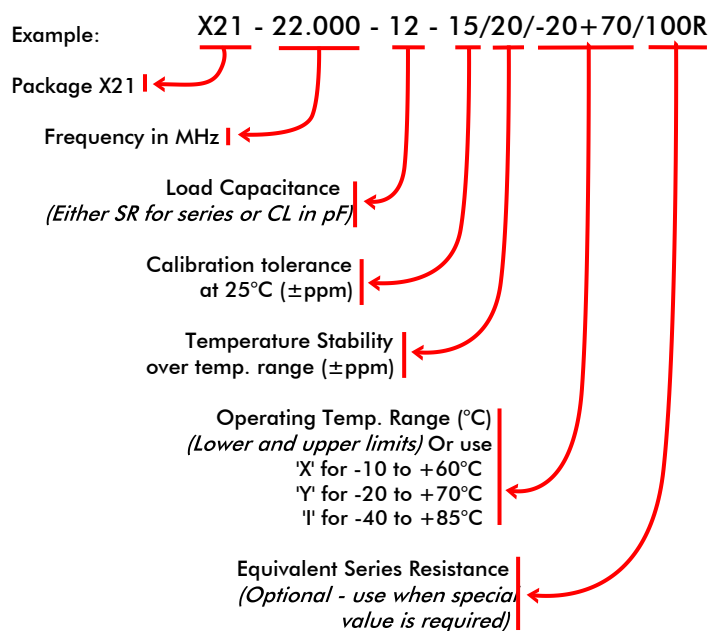
Stability Code	Temperature Range	Stability ppm					
		±5	±10	±15	±20	±25	±30
X	-10 to +60°C	✓	✓	✓	✓	✓	✓
Y	-20 to +70°C	■	✓	✓	✓	✓	✓
I	-40 to +85°C			✓	✓	✓	✓

✓ = available, ■ = contact Mercury

EQUIVALENT SERIES RESISTANCE

Frequency Range MHz	ESR Ohms Max.
20.0~30.0	120
30.1~54.0	80

PART NUMBER FORMAT



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