

FEATURES

- **Miniature package: 4.0 x 2.5 x 0.6mm**
- **Gold-plated ceramic base with metal seam-welded package**
- **Very low ageing**
- **Designed for hand-held equipment, PDAs, Blue Tooth, GPS**
- **High shock and vibration resistance**



DESCRIPTION

X42 crystals are micro-miniature surface-mount mount crystals. The crystals have a gold plated ceramic base with a seam welded metal lid providing a stable crystal with very low ageing. The rugged construction ensures that this crystal has high shock and vibration resistance. The crystal has been specifically designed for use in small hand-held communication equipment such as PDAs, GPS and Bluetooth.

SPECIFICATION

Frequency Range:	10.0MHz 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
-30° to +85°C	from ±10ppm
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 10pF to 32pF (Customer specified CL)
Ageing:	< ±3ppm per year at +25°C
Drive level:	100 μW maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	12mm EIA tape and reel

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

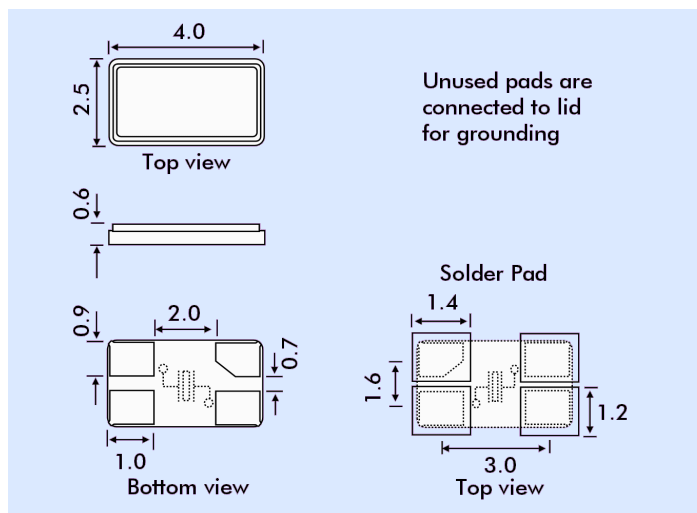
EQUIVALENT SERIES RESISTANCE (ESR)

Frequency Range MHz	Crystal Cut/ Mode	ESR Ω Max.
12.0 ~ 20.0	AT Fund.	80
20.1 ~ 60.0	AT Fund.	60

ENVIRONMENTAL PERFORMANCE

RoHS Status:	Compliant
Storage Temperature Range:	-55° to +105°C
Humidity:	85% RH, 85°C for 48 hours
Hermetic Seal:	Leak rate 2x10 ⁻⁸ ATM -cm ³ /s max.
Solderability:	MIL-STD-202F Method 208E
Reflow:	260°C for 10 sec (see diagram)
Vibration:	MIL-STD-202F Method 204, 35±5 mins, 50 to 2000Hz
Shock:	MIL-STD-202F Method 213B, test Condition E, 50g 11ms.

OUTLINE & DIMENSIONS



PART NUMBER GENERATION

Part numbers for X42 crystals are generated as follows:

