X42 CRYSTALS
4mm x 2.5mm x 0.6mm SMD
12.0MHz to 50MHz

DESCRIPTION

X42 crystals are micro-miniature surface-mount mount crystals. The crystals have a gold plated ceramic base and 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.

FEATURES

- Miniature size: 4.0mm x 2.5mm x 0.6mm height
- 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

SPECIFICATION

Frequency Range	
AT-Cut Fundamental:	12.0MHz to 50.0MHz
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:	-40°~+85°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 microW maximum
Reflow Soldering:	10s maximum at 260°C twice
	or 180s at 230°C, once.
Packaging:	16mm EIA tape and reel

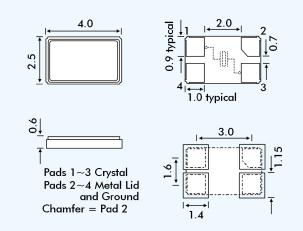*Note: Tighter stability, tolerance and lower ESR values are available.*

EQUIVALENT SERIES RESISTANCE

Frequency Range MHz	Crystal Cut/ Mode	ESR Ohms Max.
12.0 ~ 20.0	AT Fund.	80
20.1 ~ 50.0	AT Fund.	60

OUTLINE & DIMENSIONS

Pads 1~3 Crystal
Pads 2~4 Metal Lid and Ground
Chamfer = Pad 2

PART NUMBER GENERATION

Part numbers for X42 crystals are generated as follows:

Example: 12.000MHz X42/20/30/-10+60/12pF/60R

Nominal Frequency

Package

Calibration tolerance at 25°C (±ppm)

Temperature Stability over temp. range (±ppm)

Operating Temp. Range (°C) *(Lower and upper limits)*

Load Capacitance *(Either SR for series or CL in pF)*

Equivalent Series Resistance *(When special value is required)*