

FEATURES

- Frequency range 12MHz to 60MHz, fundamental mode
- Ultra-small package 3.2mm x 2.5mm x 0.6mm
- Entire package may be grounded via metal lid and two pads
- Packaged in standard EIA tape and reel
- Extremely low ageing with high shock and vibration resistance
- Ideal for PDAs, hand-held GPS, PCMCIA etc.



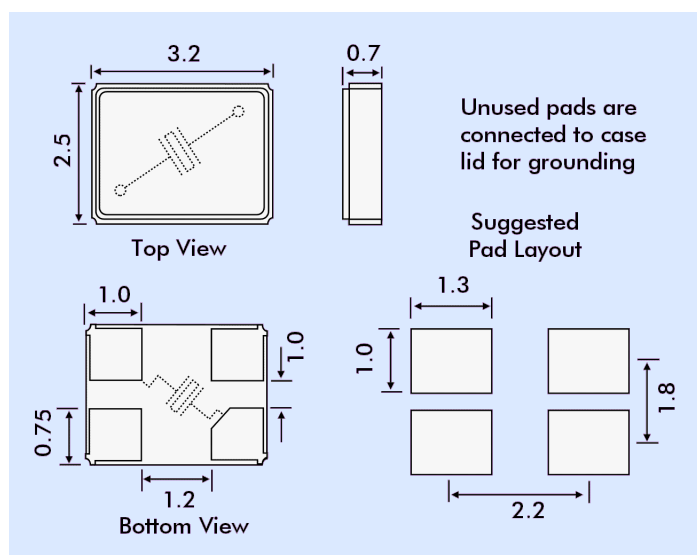
DESCRIPTION

MT 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

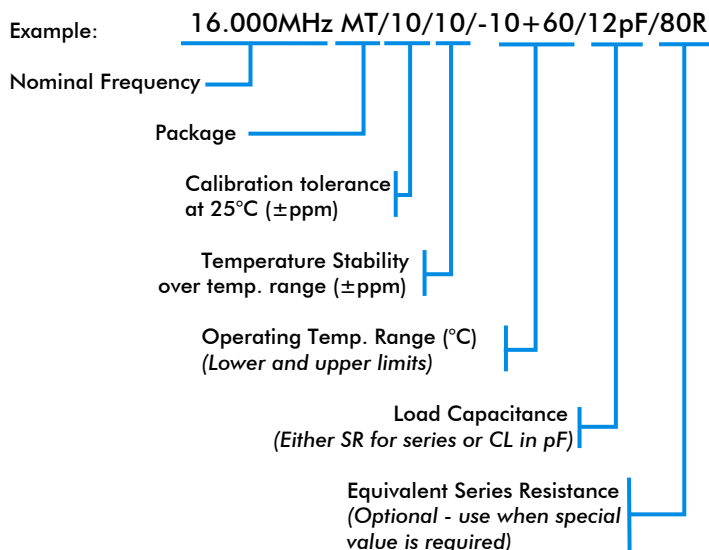
Frequency Range:	12.0MHz to 60.0MHz
Operating Mode:	AT-Cut Fundamental:
Calibration Tolerance at 25°C*:	from ± 5 ppm (± 10 , ± 20 or ± 30 ppm standard)
Frequency stability*	
-10° to +60°C	from ± 5 ppm
-20° to +70°C	from ± 10 ppm
-40° to +85°C	from ± 15 ppm
Operating Temperature Range:	From 0° ~ +50°C to -40° ~ +85°C
Storage Temperature:	-50° ~ +105°C
Equivalent Series Resistance*	
12.000MHz to 20.000MHz:	100 Ω maximum
20.001MHz to 60.000MHz:	60 Ω maximum
Shunt Capacitance (C0):	2pF to 4pF typical, 5pF maximum
Load Capacitance (CL):	Series or from 8pF to 32pF (Customer specified CL)
Ageing:	< ± 3 ppm per year at +25°C
Drive level:	10 μ W typical, 100 μ W maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	12mm EIA tape and reel

OUTLINE & DIMENSIONS



PART NUMBER GENERATION

Part numbers for MT crystals are generated as follows:



STANDARD PART NUMBERS AND SPECIFICATIONS

Frequency (MHz)	CL (pF)	Euroquartz Part Number	Tolerance ($\pm$ ppm)/ Stability ($\pm$ ppm)/ Temp. Range (°C)/ Max. ESR (Ohms)
16.0000	12	MT-16000-12	30/50/-20+70/100R
16.3840	12	MT-16384-12	30/50/-20+70/100R
20.0000	12	MT-20000-12	30/50/-20+70/100R
20.5720	12	MT-20572-12	30/50/-20+70/60R
20.9450	12	MT-20945-12	30/50/-20+70/60R
24.5500	12	MT-24550-12	30/50/-20+70/60R
24.5760	12	MT-24576-12	30/50/-20+70/60R
29.4912	12	MT-29491-12	30/50/-20+70/60R
32.0000	12	MT-32000-12	30/50/-20+70/60R
32.7680	12	MT-32768-12	30/50/-20+70/60R
40.0000	12	MT-40000-12	30/50/-20+70/60R
48.0000	12	MT-48000-12	30/50/-20+70/60R
50.0000	12	MT-50000-12	30/50/-20+70/60R