EUROQUARTZ

MJ2 CRYSTALS

5.0 x 3.2 x 0.9mm SMD

8.0MHz to 150MHz

FEATURES

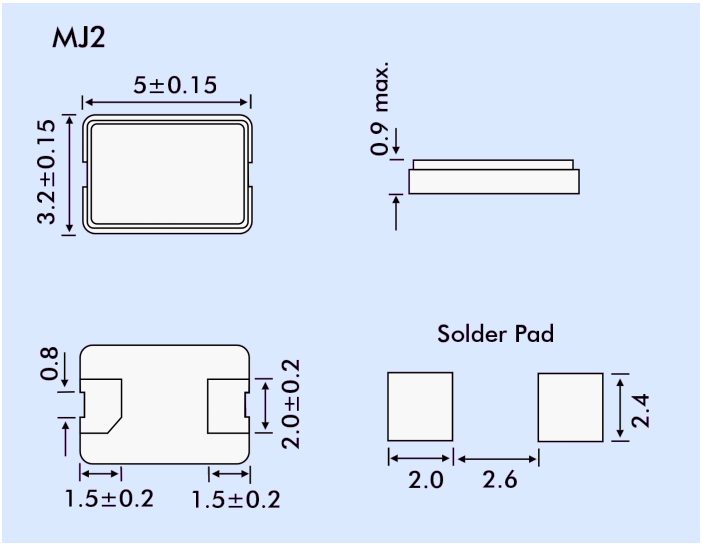
- **Miniature size: 5.0mm x 3.2mm x 0.9mm height**
- **2 pad version**
- **High shock and vibration resistance**
- **Ideal for PDAs, GPS, PCMCIA, Wireless LAN etc.**

RoHS

DESCRIPTION

MJ2 crystals are miniature surface-mount crystals produced with a ceramic substrate and seam-welded metal lid. Their compact size and low mass make hem an ideal crystal for high-density applications.

OUTLINE & DIMENSIONS



SPECIFICATION

Frequency Range	
8.0MHz to 50.0MHz:	AT-Cut Fundamental
40.0MHz to 150.0MHz:	AT-Cut 3rd Overtone
Calibration Tolerance at 25°C:	from ±10ppm to ±100ppm
Frequency stability over Temp:	from ±10ppm to ±100ppm
Operating Temperaure Range:	-10° ~ +60°C to -40° ~ +85°C
Storage Temperature:	-40°~+85°C / -55° ~ +125°C
Effective Series Resistance:	*See table*
Shunt Capacitance (C0):	2pF to 5pF typical, 7pF maximum
Load Capacitance (CL):	Series or from 6pF to SeriespF (*Customer specified CL*)
Ageing:	<±5ppm per year at +25°C
Drive level:	100 µW maximum
Insulation Resistance:	500MΩ min. at 100±15VDC
Reflow Soldering:	10s maximum at 260°C 2 reflows maximum
Package:	Ceramic base, metal lid, Hermetic seal
Packaging:	12mm EIA tape and reel 1000 pieces per reel

EQUIVALENT SERIES RESISTANCE (ESR)

Frequency Range (MHz)	Crystal Cut/ Mode	ESR Ω Max.
8.0 ~ 10.0	AT Fund.	100
10.01 ~ 12.0	AT Fund.	80
12.01 ~ 20.0	AT Fund.	60
20.01 ~ 50.01	AT Fund.	40
40.01 ~ 150.0	3rd Overtone	80

ENVIRONMENTAL SPECIFICATION

RoHS Status:	Compliant
Gross Leak:	1kg pressurized water immersion test as per Euroquartz procedures.
Fine Leak:	<5x10^{-8} atm cc/s -helium leak test
Shock:	±5ppm max. Free drop 3 times from 75cm height onto a hard wooden board or half sine wave acceleration of 100g peak amplitude for 11 ms duration, 3 cycles each plane.
Vibration:	±5ppm max., frequency 10 to 55Hz, amplitude 1.5mm or 10g rms. Duration 6 hours.
Solderability:	MIL-STD-883, Method 2003
Humidity:	48 hours at 85°C, relative humidity, non-condensing
Thermal Shock:	Temperature cycling: Exposed to -40°C for 30 minutes then to +85°C for 30 minutes, - duration 5 days.

PART NUMBER GENERATION

Part numbers for MJ2 crystals are generated as follows: