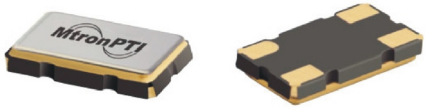
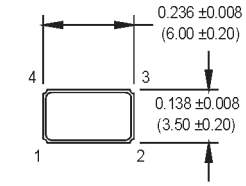
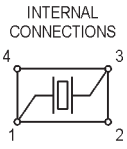
PP Surface Mount Crystals
3.5 x 6.0 x 1.2 mm

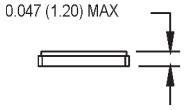


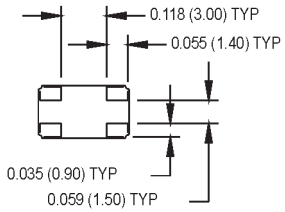
- Miniature low profile package
- RoHS Compliant
- Wide frequency range
- PCMCIA - high density PCB assemblies





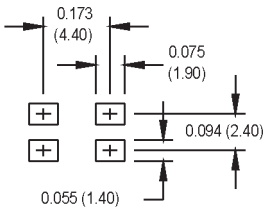
All dimensions in inches (mm).





ACTUAL SIZE

SUGGESTED SOLDER PAD LAYOUT



Available Stabilities vs. Temperature

T \ S	D	F	G	J	M
1	A	A	A	A	A
2	N	N	A	A	A
3	A	A	A	A	A
6	N	N	A	A	A

A = Available
N = Not Available

Ordering Information

PP 1 M M XX 00.0000 MHz

Product Series

Temperature Range
- **1:** 0°C to +70°C
- **2:** -10°C to +60°C
- **3:** -20°C to +70°C
- **4:** -30°C to +60°C
- **5:** -20°C to +80°C
- **6:** -40°C to +85°C

Tolerance
- **D:** ±10 ppm
- **F:** ±15 ppm
- **G:** ±20 ppm
- **J:** ±30 ppm
- **M:** ±50 ppm
- **H:** ±25 ppm

Stability
- **C:** ±5 ppm
- **D:** ±10 ppm
- **F:** ±15 ppm
- **G:** ±20 ppm
- **H:** ±25 ppm
- **J:** ±30 ppm
- **M:** ±50 ppm
- **P:** ±100 ppm

Load Capacitance
- **Blank:** 18 pF (std)
- **S:** Series Resonant
- **XX:** Customer Specified 10 pF to 32 pF

Frequency (customer specified)

M1003Sxxx - Contact factory for datasheet.

Electrical/Environmental Specifications

PARAMETERS	VALUE
Frequency Range*	10.000 to 180.000 MHz
Tolerance @ +25°C	See ordering information
Stability	See ordering information
Aging	±2 ppm/yr Max
Shunt Capacitance	5 pF Max.
Load Capacitance	See ordering information
Standard Operating Conditions	See ordering information
Equivalent Series Resistance (ESR), Max.	
Fundamental (AT-cut)	
10.0000 to 12.999 MHz	80 Ω Max.
13.000 to 13.999 MHz	50 Ω Max.
14.000 to 19.999 MHz	40 Ω Max.
20.000 to 45.000 MHz	30 Ω Max.
Third Overtones (AT-cut)	
40.000 to 150.000 MHz	50 Ω Max.
Fifth Overtones (AT-cut)	
100.000 to 180.000 MHz	90 Ω Max.
Drive Level	100 µW Max, 50 µW Typ, 10 µW Min
Mechanical Shock	MIL-STD-202, Method 213, C
Vibration	MIL-STD-202, Method 201 & 204
Thermal Cycle	MIL-STD, Method 1010, B
Max Soldering Conditions	See solder profile, Figure 1

* Because this product is based on AT-strip technology, not all frequencies in the range stated are available. Contact the factory for availability of specific frequencies.

MtronPTI Lead Free Solder Profile