

## M1380 Series SPECIFICATION FOR 3.7x 8.0 mm THROUGH HOLE CRYSTAL

### FEATURES

Suitable for wave or reflow soldering  
Through Hole AT-cut crystal  
Military Temperature Range  
High Shock Resistance

### APPLICATIONS

Avionics  
Satellite communications  
Test equipment

### Ordering Information:

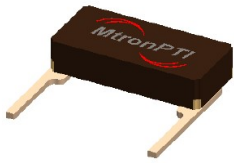
Product Family	Temperature Range		Tolerance at +25 °C		Stability		Load Capacitance		Frequency
	Code	Value	Code	Value	Code	Value	Code	Value	
<b>M1380</b>	<b>2</b>	-40 °C to +85 °C	<b>M</b>	± 50 ppm	<b>M</b>	± 50 ppm	<b>Blank</b>	20 pF (standard) Customer Specified (6 pF to 50 pF) Series resonant	XX.XXXXXX MHz
	<b>4</b>	-55 °C to +125 °C							
Example: M13802MM 20.000000 MHz									
<b>M1380</b>	<b>2</b>		<b>M</b>		<b>M</b>				<b>20.000000 MHz</b>

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Mode of Oscillation		Fundamental (AT cut)				
Frequency Range	F <sub>0</sub>	8.000		30.000	MHz	
Frequency Tolerance	ΔF/F	See Ordering Information Table			ppm	@ +25 °C
Frequency Stability	ΔF/F <sub>0</sub>	See Ordering Information Table			ppm	
Operating Temperature	T <sub>A</sub>	See Ordering Information Table			°C	
Aging		-3		+3	ppm/year	@ +25 °C
Load Capacitance	C <sub>L</sub>	See Ordering Information Table (standard is 20 pF)			pF	
Resistance	R <sub>s</sub>		60	100	Ω	8.000 – 9.999 MHz
			50	85	Ω	10.000 – 11.999 MHz
			40	75	Ω	12.000 – 15.999 MHz
			35	60	Ω	16.000 – 19.999 MHz
			30	50	Ω	20.000 – 23.999 MHz
			30	40	Ω	24.000 – 30.000 MHz
Shunt Capacitance	C <sub>O</sub>			4	pF	
Drive Level	D <sub>L</sub>		100	500	μW	
Insulation Resistance		500			MΩ	

### Environmental & Package Specifications:

Storage Temperature	-55°C to 125°C
Mechanical Shock	5000g, 0.3 ms, ½ sine
Vibration	20g / 10-2000 Hz
Gross Leak	Per MIL-STD-202, Method 112 (30 sec. Immersion)
Fine Leak	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)
Resistance to Solvents	Per MIL-STD-883, Method 2015
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	+260°C for 10 secs
Package	3.7 x 8.0 x 1.75 mm ceramic with leads



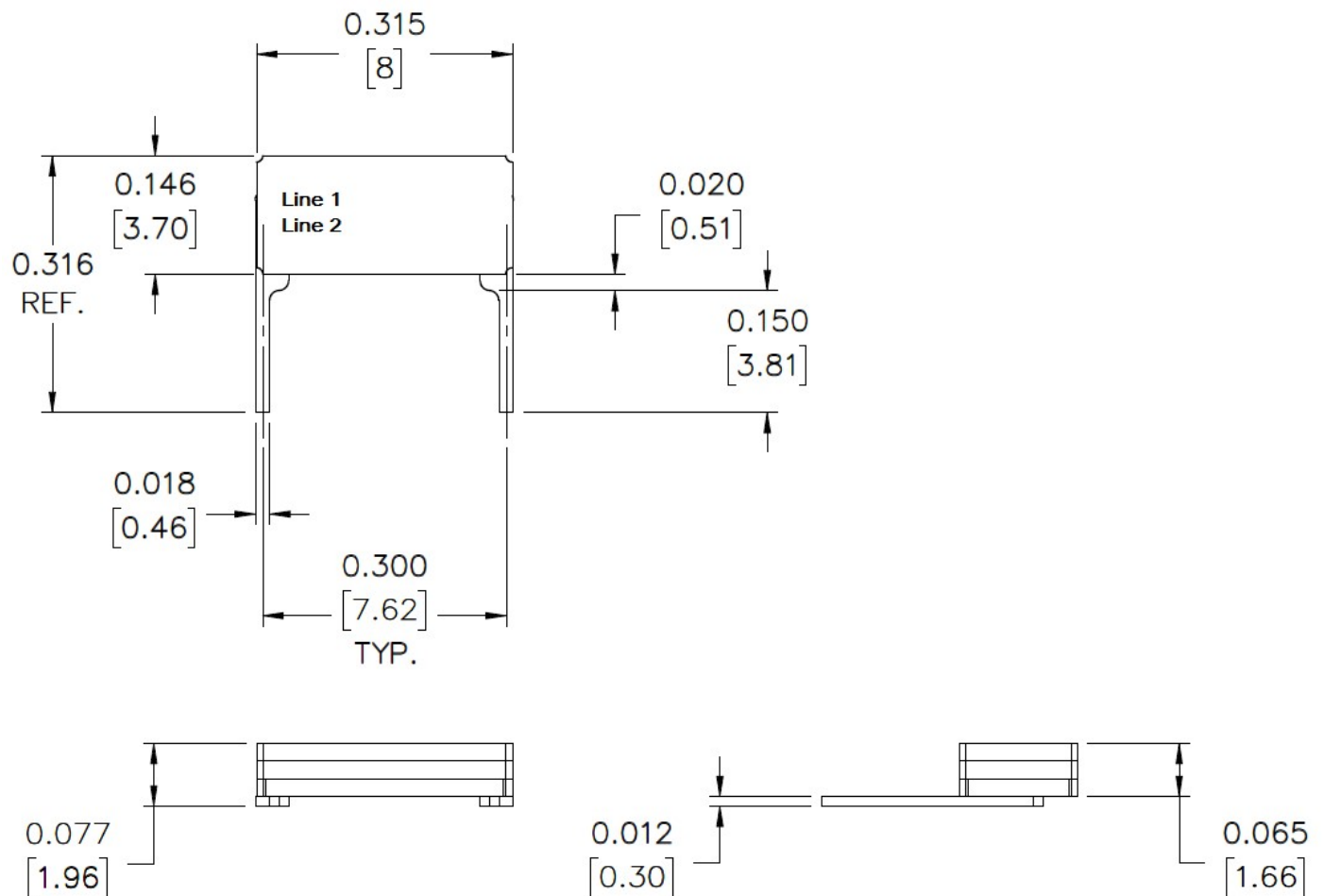
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### Marking:

Part Marking	
Line 1	xxMxxx
Line 2	M Y WW V

Legend	
M	MtronPTI
Y	Year
WW	Week
V	Vendor
xxMxxx	Frequency MHz

### Dimensions:



MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice.  
No liability is assumed as a result of their use or application.

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