



## M1252 Series SPECIFICATION FOR 2.5x2.0 mm AT CUT SMT CRYSTAL

### FEATURES

Surface mount AT-cut crystal  
Compliant to RoHS directive

### APPLICATIONS

Clock circuits in communications equipment  
Test equipment  
Portable and wearable devices.

### Ordering Information:

Product Family	Temperature Range		Tolerance at +25 °C		Stability		Load Capacitance		Frequency
	Code	Value	Code	Value	Code	Value	Code	Value	
M1252	6	-20 °C to +70 °C	D	±10 ppm	D	±10 ppm	Blank S xx	18 pF (standard) Series Resonant Customer Specified (6 pF to 50 pF)	XXX.XXXXXX MHz
	2	-40 °C to +85 °C	E	±15 ppm	E	±15 ppm			
			G	±20 ppm	G	±20 ppm			
			H	±25 ppm	H	±25 ppm			
			J	±30 ppm	J	±30 ppm			
			M	±50 ppm	M	±50 ppm			
Example: M12526JM 25.000000 MHz									
M1252	6		J		M				25.000000 MHz

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Mode of Oscillation		Fundamental (AT cut)				
Frequency Range	F <sub>0</sub>	12.000		54.000	MHz	
Frequency Tolerance	ΔF/F	See Ordering Information Table			ppm	@ +25 °C
Frequency Stability	ΔF/F	See Ordering Information Table			ppm	Ref to +25 °C
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 18 pF)			pF	
Resistance	R <sub>s</sub>			100	Ω	12.000 – 15.999 MHz
				80	Ω	16.000 – 26.999 MHz
				50	Ω	27.000 – 35.000 MHz
				40	Ω	35.001 – 54.000 MHz
Shunt Capacitance	C <sub>0</sub>			5	pF	
Drive Level	D <sub>L</sub>			100	μW	
Insulation Resistance		500			MΩ	Tested @ 100VDC

### Environmental & Package Specifications:

Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)
Thermal Cycle	Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles)
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)
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	See solder profile, Figure 1
Package	2.5 x 2.0 mm ceramic leadless 4 pad package



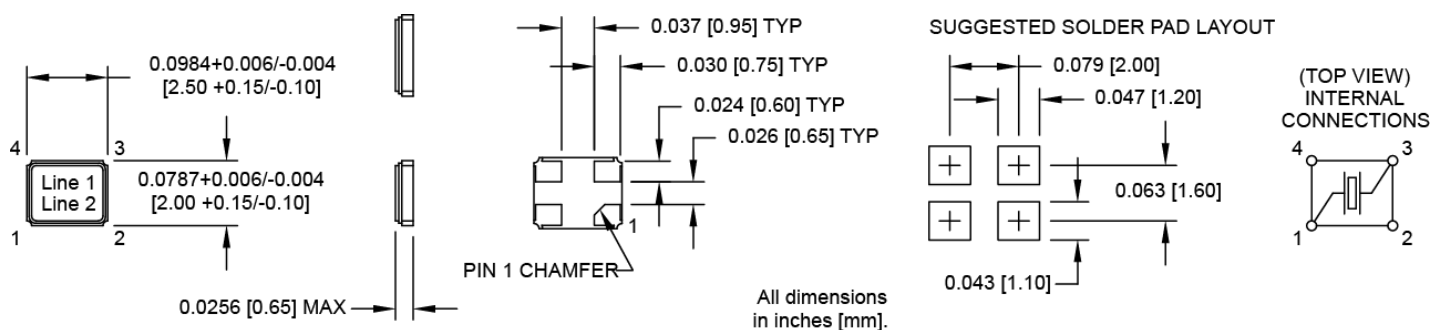
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### Marking:

Part Marking	
Line 1	xxMxxx
Line 2	M Y WW V

Legend	
M	MtronPTI
Y	Year
WW	Week
V	Vendor

### Dimensions:



### Reflow Soldering Conditions:

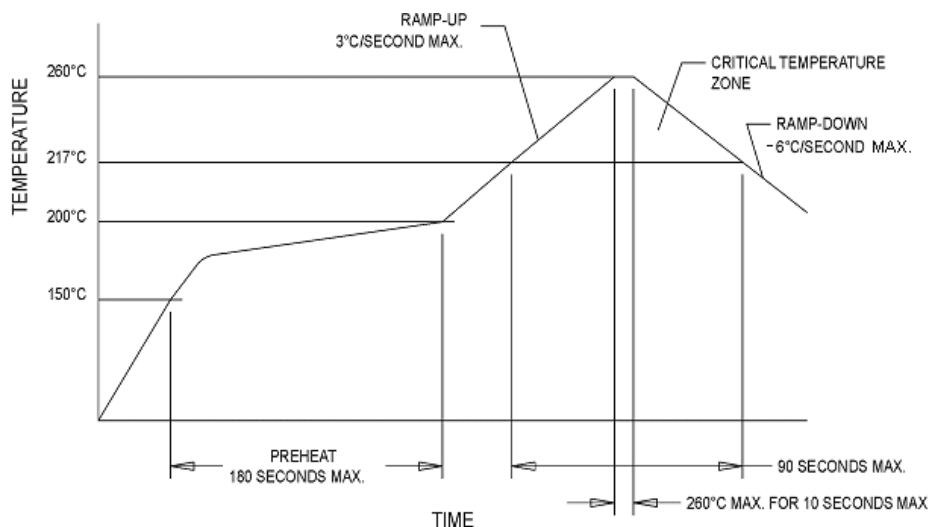
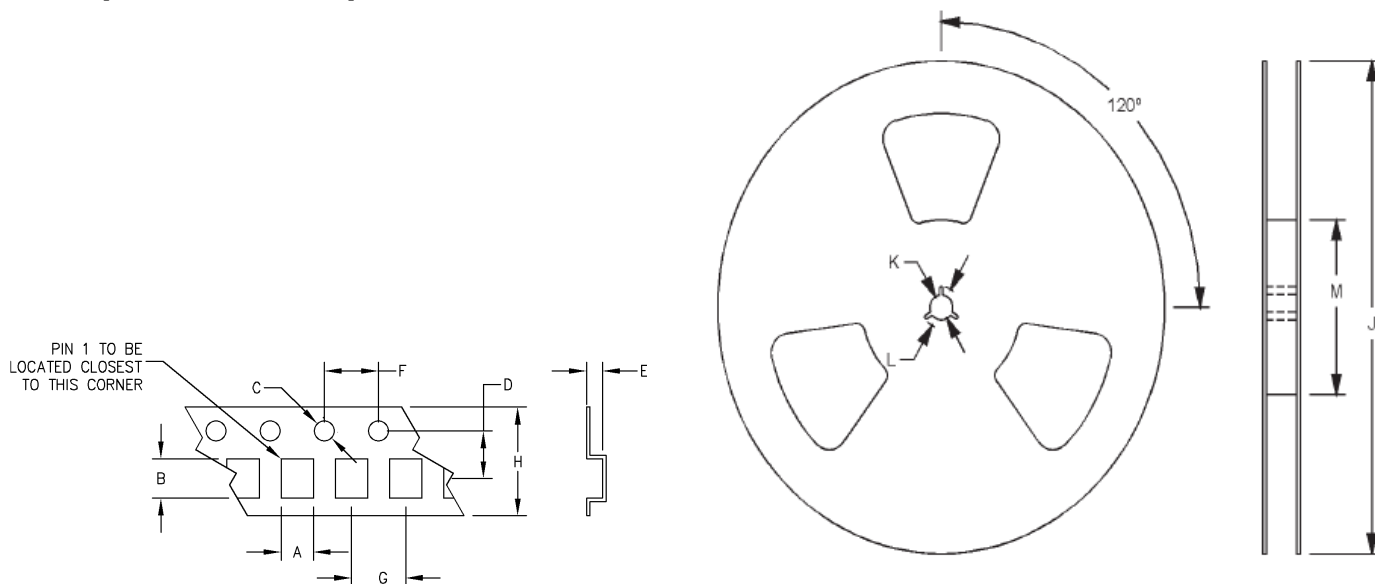


Figure 1



**M1252 Series**  
**SPECIFICATION FOR 2.5x2.0 mm AT CUT SMT CRYSTAL**

**Tape and Reel Specifications:**



All dimensions are in mm.

A	B	C	D	E	F	G	H	J	K	L	M
2.4	2.9	1.55	3.5	1.2	4	4	8	178	13	21	60