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## SPECIFICATION FOR ROHS 6 COMPLIANT SMT CRYSTAL MtronPTI P/N M1253S229

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Mode of Oscillation		Fundamental (AT-Cut)				
Frequency	F <sub>0</sub>		48.000000		MHz	
Frequency Tolerance	F/F	-20		+20	ppm	@ 25°C
Frequency Stability	ΔF/F	-30		+30	ppm	Over temperature range
Operating Temperature	T <sub>A</sub>	-40		+85	°C	
Aging		-1		+1	ppm	1 <sup>st</sup> year @ +25°C
Load Capacitance	C <sub>L</sub>		8		pF	
Shunt Capacitance	C <sub>0</sub>			3	pF	
ESR				22	Ω	
Drive Level	D <sub>L</sub>	10	100	200	μW	

### Environmental Conditions:

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)
Hermeticity	Per MIL-STD-202, Method 112 (1 X 10 <sup>-8</sup> atm cc/s of helium)
Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B.
Solderability	Per EIAJ-STD-002
Package	4-pad 2.5 X 3.2 X 0.8 mm leadless ceramic. RoHS compliant.
Max. Soldering Conditions	See Figure 1

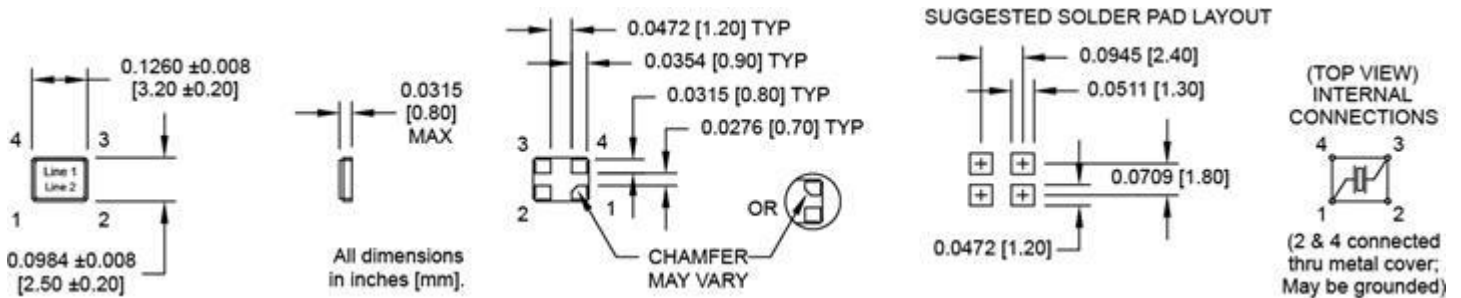
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### Mechanical and Marking Information:

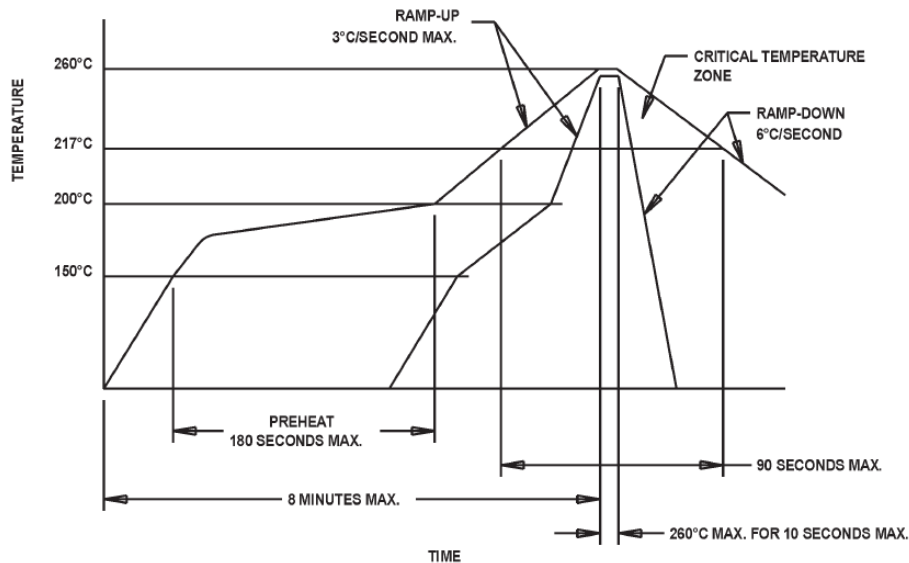
Part Marking	
Line 1	48M000
Line 2	MB y ww v

Line 2 Legend	
M	MtronPTI
B	Part Series
y	Year
ww	Work Week No.
v	Factory code

Pad	Function
1	Input / Output
2	Cover / Ground
3	Input / Output
4	Cover / Ground



### Reflow Profile



### DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
10-21-20	A	MM	Original release.