



## SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002S903

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions	
Frequency of Operation	F <sub>O</sub>		14.318180		MHz		
Frequency Stability	ΔF/F	-50		+50	ppm		
Operating Temperature	T <sub>A</sub>	-40		+85	°C		
Storage Temperature	T <sub>S</sub>	-65		+95	°C		
Aging		-3		+3	ppm	1 <sup>st</sup> year	
		-1		+1	ppm	Thereafter (per year)	
Operating Voltage	V <sub>DD</sub>	3.135	3.3	3.465	V		
Operating Current	I <sub>DD</sub>			10	mA		
Output Type		HCMOS/TTL Compatible					
Output Load				15/2	pF/TTL		
Symmetry (duty cycle)	T <sub>DC</sub>	45		55	%	Ref to ½ V <sub>DD</sub>	
Logic "1" Level	V <sub>OH</sub>	90% V <sub>DD</sub>			V	HCMOS load	
	V <sub>OH</sub>	V <sub>DD</sub> - 0.5			V	TTL Load	
Logic "0" Level	V <sub>OL</sub>			10% V <sub>DD</sub>	V	HCMOS load	
	V <sub>OL</sub>			0.5 V		TTL Load	
Rise/Fall Time	T <sub>R</sub> /T <sub>F</sub>			6	ns	From 10% to 90% V <sub>DD</sub>	
Random Jitter	R <sub>J</sub>		4	10	ps RMS	1-Sigma	
Start-up Time	T <sub>SU</sub>			10	ms		
Tri-state Function		Logic "1" enables output. Logic "0" disables output to a Hi-Z.					Pad1

### Environmental & Mechanical Requirements:

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)
Fine Leak Test	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)
Gross Leak Test	Per MIL-STD-202, Method 112 (30 second immersion)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4-pad 5 X 7 mm leadless ceramic. Sn-Pb solder tinned pads.

### Special Requirements:

1. All units 100% electrical test over -40°C to +85°C and at +25°C.
2. Domestic USA build only.

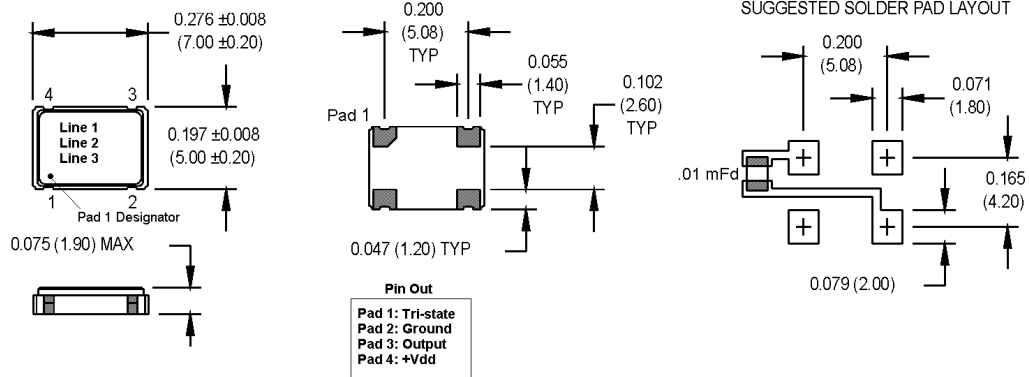
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### Dimensions, Marking, and Pin Out Information:

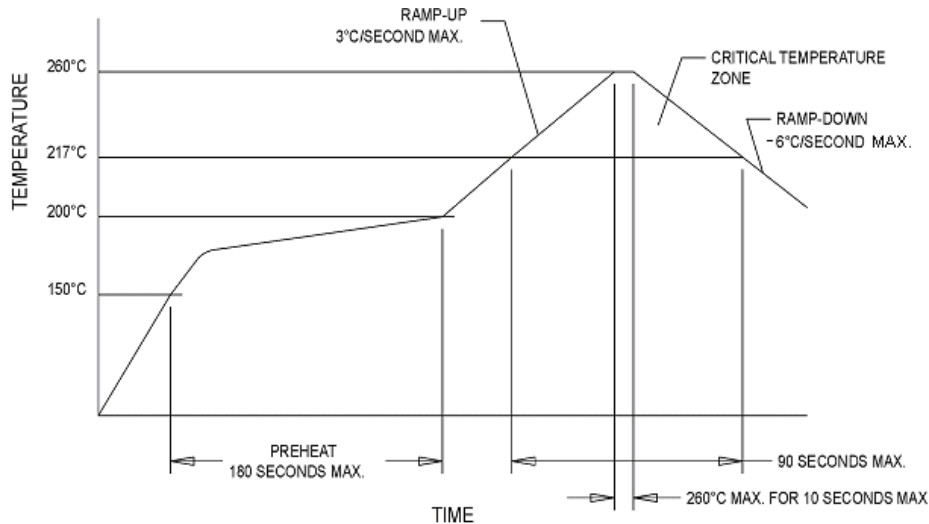
Pad	Function
1	Tri-state
2	Ground
3	Output
4	+V <sub>DD</sub>

Part Marking	
Line 1	M2002S903
Line 2	14M318180
Line 3	M yyww

Legend	
yy	Year
ww	Work week



**Figure 1**



### DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
12/16/09	0	WNJ	Original release.