



P.O. Box 630 100 Douglas Ave. Yankton, SD 57078 USA
 Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
 Website: www.mtronpti.com

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002S905

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions	
Frequency of Operation	F _O		12.000000		MHz		
Frequency Stability	ΔF/F	-50		+50	ppm		
Operating Temperature	T _A	-40		+85	°C		
Storage Temperature	T _S	-65		+95	°C		
Aging		-3		+3	ppm	1 st year	
		-1		+1	ppm	Thereafter (per year)	
Operating Voltage	V _{DD}	3.135	3.3	3.465	V		
Operating Current	I _{DD}			10	mA		
Output Type		HCMOS/TTL Compatible					
Output Load				15/2	pF/TTL		
Symmetry (duty cycle)	T _{DC}	45		55	%	Ref to ½ V _{DD}	
Logic "1" Level	V _{OH}	90% V _{DD}			V	HCMOS load	
	V _{OH}	V _{DD} - 0.5			V	TTL Load	
Logic "0" Level	V _{OL}			10% V _{DD}	V	HCMOS load	
	V _{OL}			0.5 V		TTL Load	
Rise/Fall Time	T _R /T _F			6	ns	From 10% to 90% V _{DD}	
Random Jitter	R _J		4	10	ps RMS	1-Sigma	
Start-up Time	T _{SU}			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 ⁻⁸ 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.

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002S905

Dimensions, Marking, and Pin Out Information:

Pad	Function
1	Tri-state
2	Ground
3	Output
4	+V _{DD}

Part Marking	
Line 1	M2002S905
Line 2	12M0000
Line 3	M yyww

Legend	
yy	Year
ww	Work Week

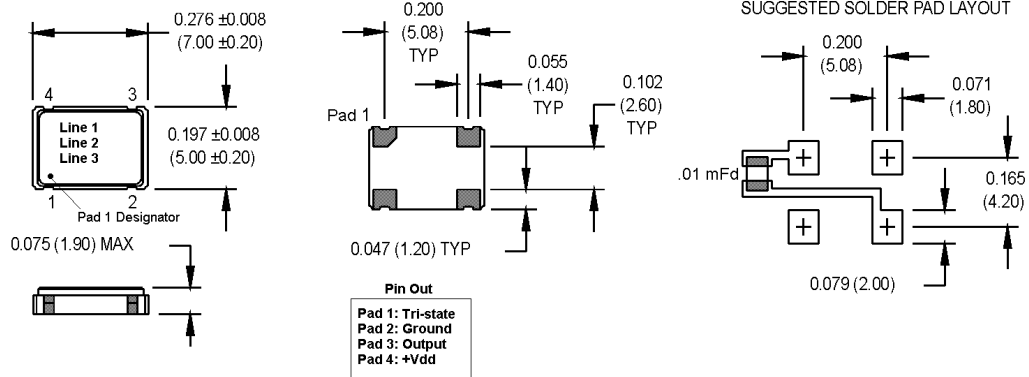
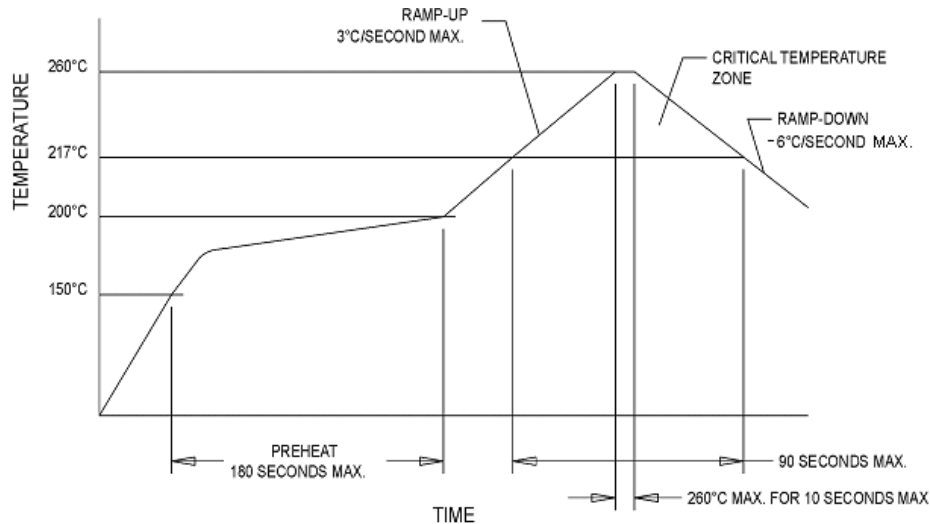


Figure 1



DATA SHEET REVISION TABLE:

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