



SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS/TTL SMT OSCILLATOR MtronPTI P/N: M2002S949

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency	F _O		30.000000		MHz	
Frequency Stability	ΔF/F	-50		+50	ppm	Inclusive of initial tolerance, deviation over temperature, shock, vibration and voltage
Operating Temperature	T _A	-40		+85	°C	
Storage Temperature	T _S	-55		+125	°C	
Aging		-3		+3	ppm	1 st year
		-1		+1	ppm	Thereafter (per year)
Operating Voltage	V _{DD}	2.97	3.3	3.63	V	
Operating Current	I _{DD}			20	mA	
Output Type		HCMOS/TTL Compatible				
Output Load		15/2			pF/TTL	
Symmetry (duty cycle)	T _{DC}	45		55	%	@ 1/2 V _{DD}
Logic "1" Level	V _{OH}	90% V _{DD}			V	HCMOS load
Logic "0" Level	V _{OL}			10% V _{DD}	V	HCMOS load
Rise/Fall Time	T _R /T _F			10	ns	From 10% to 90% V _{DD}
Cycle-to-Cycle Jitter	C-C _J	-15		+15	ps	Per JESD65B
Tri-state Enable Logic		80% V _{DD} or N/C			V	Pad 1
Tri-state Disable Logic				20% V _{DD}	V	Pad 1. Output to high-Z
Start-up Time	T _{SU}			10	ms	

Environmental Conditions

Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, 1/2 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 ⁻⁸ atm cc/s of Helium)
ESD-Human Body Model	1500 volts; Per MIL-STD-833D, Method 3015, Class 1
ESD-Charged Device Model	1500 volts; Per MIL-STD-833D, Method 3015, Class 1
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	5.0 x 7.0 x 1.9 mm, 4-pad Ceramic Leadless Chip Carrier (M2 type)

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

Part Marking	
Line 1	M2002S949
Line 2	30M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code

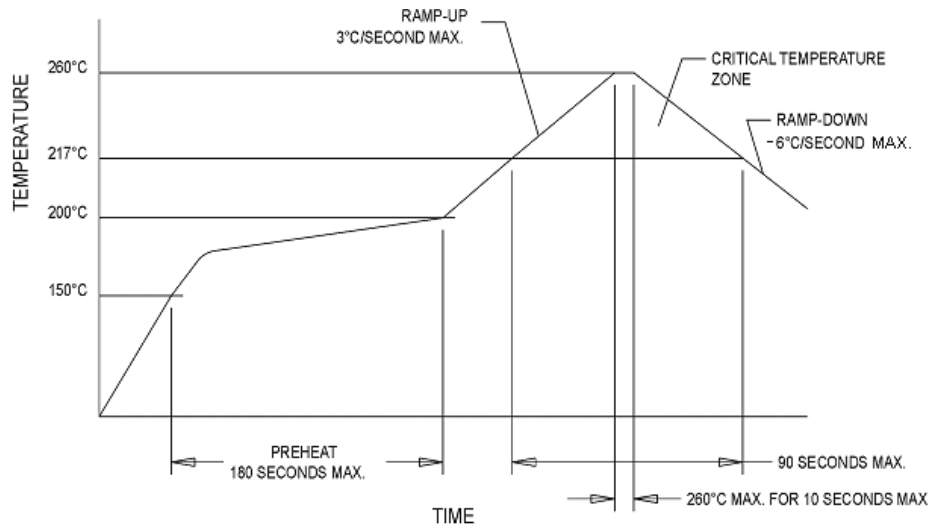
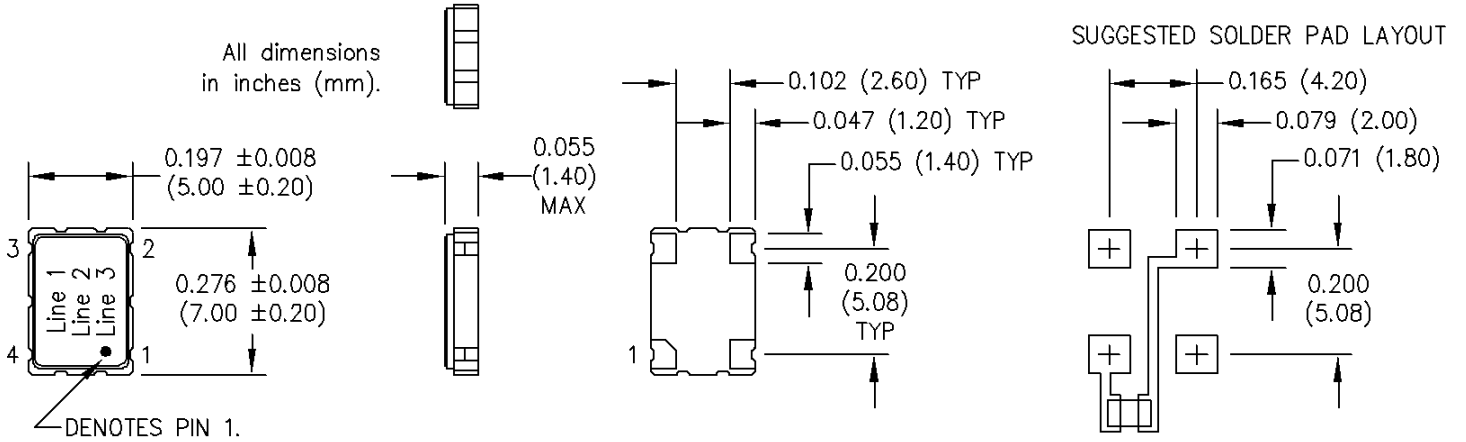


Figure 1

Datasheet Revision Table

Date	Rev.	Orig.	Details of Revision
8/12/10	0	DDM	Original release.
9/13/10	A	DDM	Used the side-lead package.