



**SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS/TTL SMT OSCILLATOR
MtronPTI P/N: M2002T073**

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F _O		33.000		MHz	
Frequency Stability	ΔF/F	-50		+50	ppm	
Operating Temperature	T _A	-20		+70	°C	
Storage Temperature	T _S	-55		+125	°C	
Operating Voltage	V _{DD}	2.97	3.3	3.63	V	
Operating Current	I _{DD}			40	mA	
Output Type		HCMOS/TTL Compatible				
Output Load		15			pF	
Symmetry (duty cycle)	T _{DC}	45		55	%	@ 50% of waveform
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			5	nS	From 20% to 80% V _{DD}
Tri-state Enable Logic		80% V _{DD} or N/C			V	Pad 1. Clock Signal Output
Tri-state Disable Logic				20% V _{DD}	V	Pad 1. Output to high-Z
Phase Jitter	Φ _J			1.0	pS RMS	Integrated 12kHz to 20MHz

Environmental Conditions:

Mechanical Shock	Per JESD22-B-104-A 1500g Peak 0.5 msec duration 5 pulses in 6 directions
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)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	5.0 x 7.0 x 1.7 mm, 4-pad Ceramic Leadless Chip Carrier (M2 type)
Termination (Pad) Material	10 to 15 μm of tungsten (W), 1.29 to 8.89 μm of nickel (Ni), 0.3 to 1.0 μm of gold (Au)
Moisture Sensitivity Level	1

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Mechanical, Marking and Layout Information:

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

Part Marking	
Line 1	M2002T073
Line 2	33M000
Line 3	M yy ww vv

Legend	
yy	Year
ww	Work week
vv	Factory code

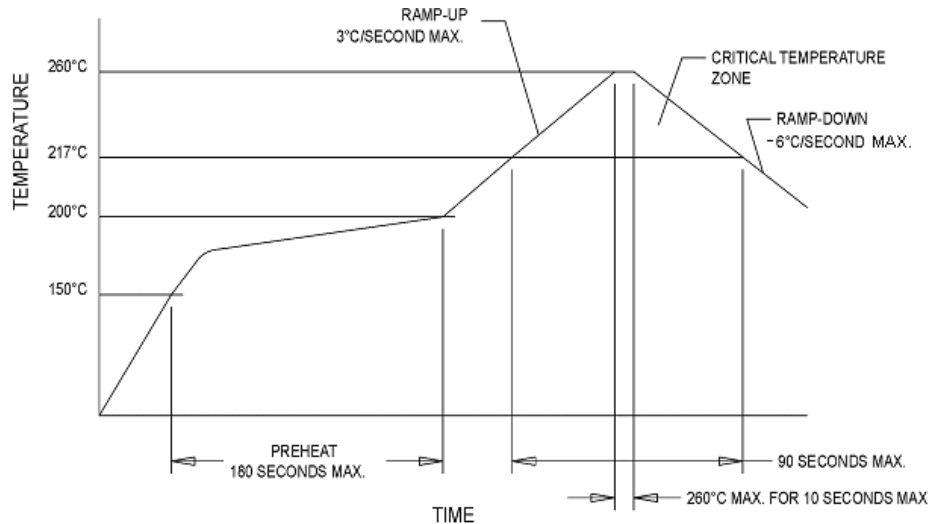
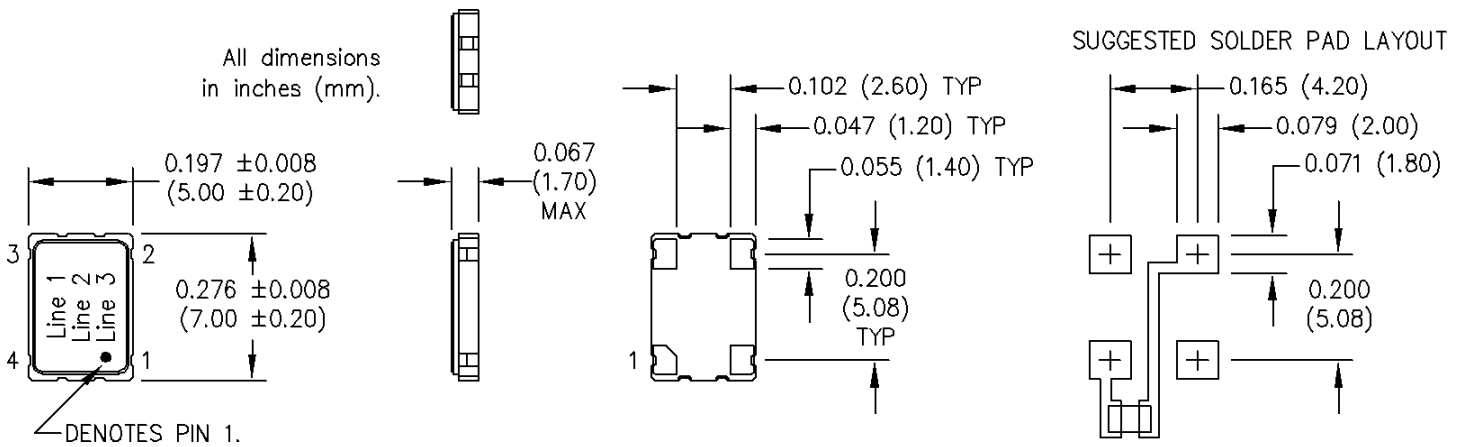


Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
4/23/10	0	MM	Original release.
4/2/12	A	MM	Specification corrections.
7/20/12	B	MM	Added phase jitter specification