

## SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS SMT OSCILLATOR MtronPTI P/N M2002T086

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F <sub>O</sub>		8.000000		MHz	
Frequency Stability	ΔF/F	-100		+100	ppm	
Operating Temperature	T <sub>A</sub>	-55		+125	°C	
Storage Temperature	T <sub>S</sub>	-55		+125	°C	
Aging		-3		+3	ppm	1 <sup>st</sup> year
		-2		+2	ppm	Thereafter (per year)
Operating Voltage	V <sub>DD</sub>	3.0	3.3	3.6	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>	40		60	%	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		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 JESD22-B-104-A 1500g Peak 0.5 msec duration 5 pulses in 6 directions
Vibration	Per JESD22-B-103-A 20g Peak (20-2000 Hz) in X, Y and Z directions
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)
ESD-Human Body Model	2000 volts; Per JESD22A-114-A
ESD-Machine Model	200 volts; Per JESD22A-115-A
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4-pad 5 X 7 mm leadless ceramic.
Highly Accelerated Stress Testing (HASS)	Vibration over the temperature of -55°C to 105°C: To be performed by the customer.

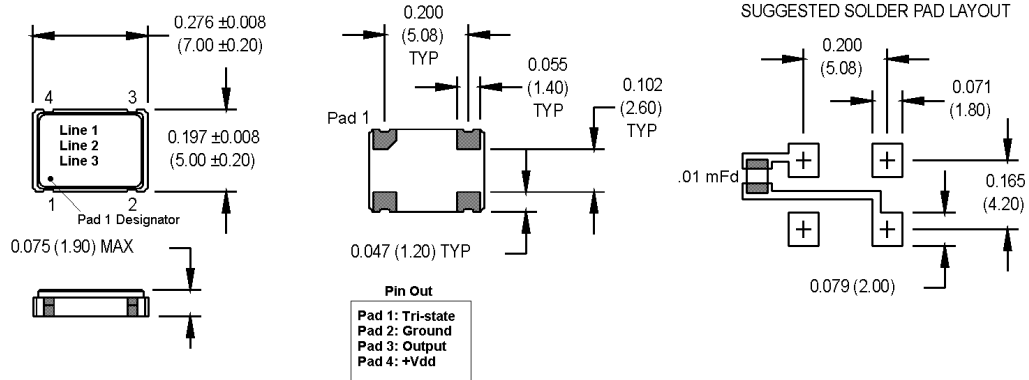
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### Dimensions, Marking, and Pin Out Information:

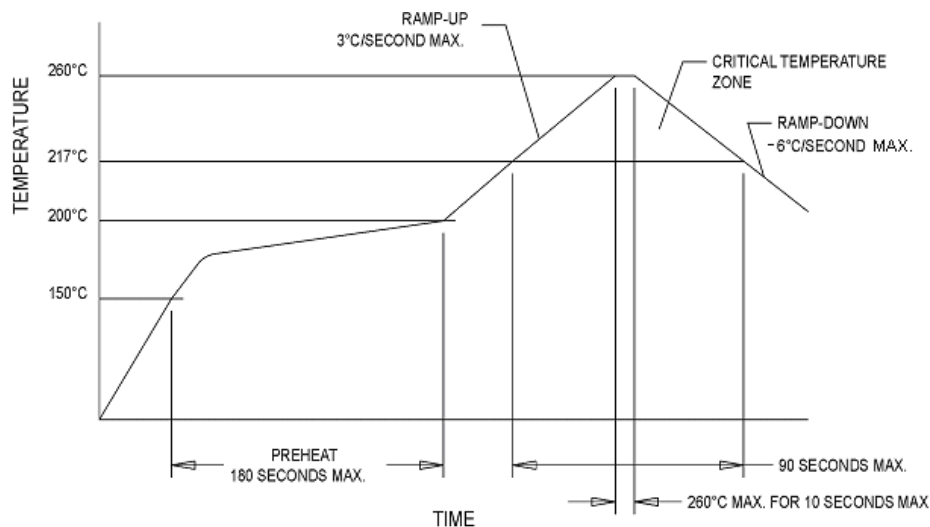
Pad	Function
1	Tri-state
2	Ground
3	Output
4	+V <sub>DD</sub>

Part Marking	
Line 1	M2002T086
Line 2	8M0000
Line 3	M yyww

Legend	
yy	Year
ww	Work week



**Figure 1**



### DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
10/11/11	0	MM	Original release.
2/22/12	A	MM	Updated customer part number.