

## SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS SMT OSCILLATOR MtronPTI Part Number M2002T290

### I. General & Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F <sub>o</sub>		1.000000		MHz	
<b>Frequency Stability</b>						
vs. Temperature	$\Delta F/F$	-50		+50	ppm	Includes initial tolerance @ +25°C, deviation over operating temperature.
Aging			± 3		ppm	1 <sup>st</sup> year
			± 2			Thereafter (per year)
<b>RF Output</b>						
Output Type		HCMOS/TTL Compatible				
Output Load				50	pF	
Symmetry (duty cycle)	T <sub>DC</sub>	45	50	55	%	Ref to ½ V <sub>DD</sub>
Logic "1" Level	V <sub>OH</sub>	90% V <sub>DD</sub>			V	HCMOS load
Logic "0" Level	V <sub>OL</sub>			10% V <sub>DD</sub>	V	HCMOS load
Rise/Fall Time	T <sub>R</sub> /T <sub>F</sub>			8	ns	10% to 90% V <sub>DD</sub> HCMOS load
<b>Supply Voltage &amp; Power Consumption</b>						
Operating Voltage	V <sub>DD</sub>	3.0	3.3	3.6	V	
Supply Current	I <sub>DD</sub>			10	mA	Output Enabled
Tristate Function		70% V <sub>DD</sub> or N/C			V	Pad1: Output Enabled
				30% V <sub>DD</sub>	V	Pad1: Output is Hi-Z

### II. Environmental & Mechanical Requirements:

Operating Temperature	T <sub>A</sub>	-40		+85	°C	
Storage Temperature	T <sub>S</sub>	-55		+125	°C	
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)					
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium)					
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, RoHS Compliant					

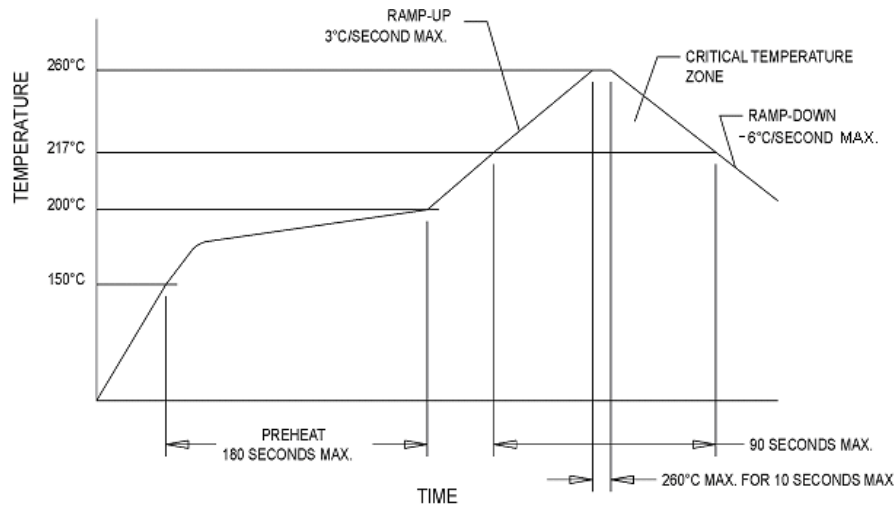
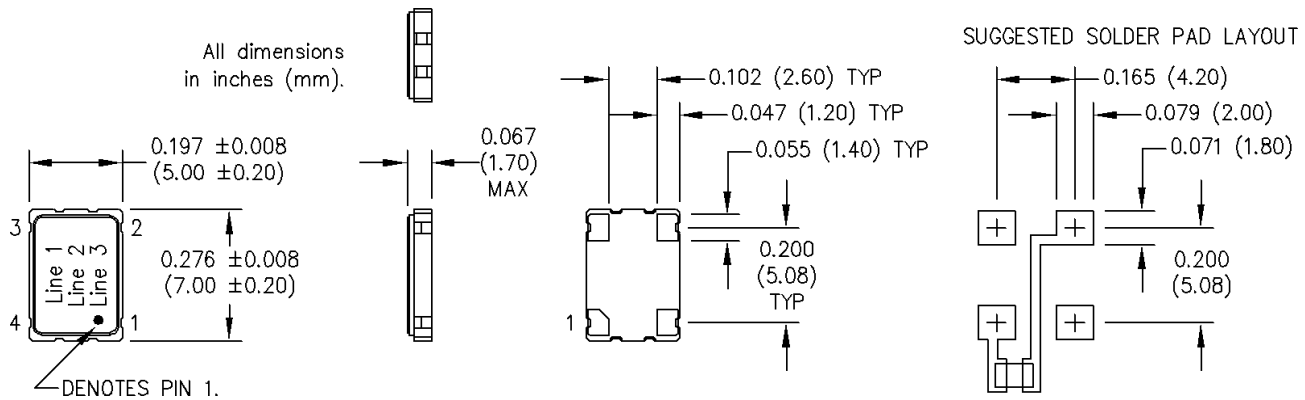
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**III. Dimensions, Marking, and Pin Out Information:**

Pad	Function
1	Tristate
2	Ground
3	Output
4	+V <sub>DD</sub>

Part Marking	
Line 1	M2002T290
Line 2	1M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code



**Figure 1**

**IV. Datasheet Revision Table:**

Date	Rev.	Author	Details of Revision
08/30/17	0	MM	Original release