![MtronPTI Logo - ...when timing matters]

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SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS SMT OSCILLATOR
MtronPTI P/N M2002T244

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		132.812500		MHz	
Frequency Stability						
Frequency Stability	$\Delta F/F$	-50		+50	ppm	Includes initial tolerance, deviation over temperature, supply voltage variation, load variation, shock, vibration, and aging.
Aging		-10		+10	ppm	Per year
RF Output						
Output Type		HCMOS/TTL Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	40	50	60	%	Ref to ½ V_{DD}
Logic "1" Level	V_{OH}	90% V_{DD}			V	HCMOS load
		2.8			V	TTL Load
Logic "0" Level	V_{OL}			10% V_{DD}	V	HCMOS load
				0.4		TTL Load
Rise/Fall Time	T_R/T_F			3	nS	10% to 90% V_{DD} HCMOS load 0.5 V to 2.8 V TTL load
Tristate Logic		Logic "1" or Open Logic "0"				Pad 1: Output Enabled Pad 1: Output Disabled to high-Z
Supply Voltage & Power Consumption						
Operating Voltage	V_{DD}	2.97	3.3	3.63	V	
Operating Current	I_{DD}			55	mA	

Environmental & Mechanical Requirements:

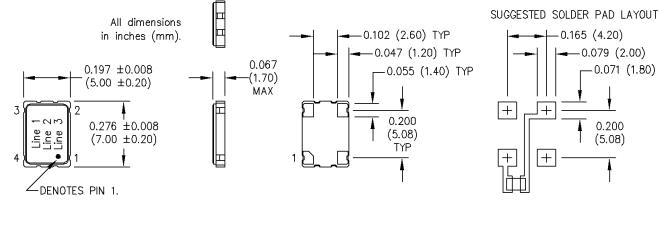|						
Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition I.					
Vibration	Per MIL-STD-202, Method 204 Condition C.					
Thermal Shock	Per MIL-STD-202, Method 107, Condition B-1.					
Resistance to Solvents	Per MIL-STD-202, Method 215.					
Hermeticity	Per MIL-STD-202, Method 112, Condition C & D.					
Solderability	Per MIL-STD-202, Method 208.					
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)					

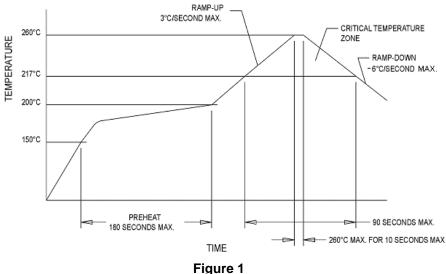# SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS SMT OSCILLATOR
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Dimensions, Marking, and Pin Out Information:

Pad	Function
1	Tristate
2	Ground
3	Output
4	+V_{DD}

Part Marking	
Line 1	M2002T244
Line 2	132M8125
Line 3	M yy ww vv

Legend	
yy	Year
ww	Work week
vv	Factory code

All dimensions in inches (mm).

0.197 ±0.008 (5.00 ±0.20)

0.276 ±0.008 (7.00 ±0.20)

DENOTES PIN 1.

0.067 (1.70) MAX

0.102 (2.60) TYP
0.047 (1.20) TYP
0.055 (1.40) TYP
0.200 (5.08) TYP

SUGGESTED SOLDER PAD LAYOUT

0.165 (4.20)
0.079 (2.00)
0.071 (1.80)
0.200 (5.08)

RAMP-UP 3°C/SECOND MAX.

CRITICAL TEMPERATURE ZONE

RAMP-DOWN −6°C/SECOND MAX.

PREHEAT 180 SECONDS MAX.

90 SECONDS MAX.

260°C MAX. FOR 10 SECONDS MAX

TEMPERATURE

TIME

Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
12/02/14	0	MM	Original release.