



SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002T197

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F _O		25.000000		MHz	
Frequency Stability	ΔF _T /F	-25		+25	ppm	
Operating Temperature	T _A	-40		+85	°C	
Storage Temperature	T _S	-55		+125	°C	
Aging		-3		+3	ppm	First year
		-2		+2	ppm	Thereafter (per year)
Operating Voltage	V _{DD}	3.0	3.3	3.6	V	
Operating Current	I _{DD}			20	mA	
Output Type		HCMOS/TTL Compatible				
Output Load	C _L			15/2	pF/TTL	
Symmetry (duty cycle)	t _{DC}	45		55	%	Ref to ½ V _{DD}
Logic "1" Level	V _{OH}	90% V _{DD}			V	HCMOS load
	V _{OH}	V _{DD} - 0.5			V	TTL Load
Logic "0" Level	V _{OL}			10% V _{DD}	V	HCMOS load
	V _{OL}			0.5 V		TTL Load
Output Current				±4	mA	
Rise/Fall Time	t _r /t _f			6	ns	From 10% to 90% V _{DD}
Tristate Function		Input Logic "1" or floating; output enabled. Input Logic "0"; output disables to a High-Z.				Pad 1
Startup Time	t _{SU}			10	ms	
Random Jitter	R _J		4	10	ps RMS	1-Sigma

Environmental & Mechanical Requirements:

Mechanical Shock	Per JESD22-B-104-A 1500 g Peak, 0.5 ms duration, 5 pulses in 6 directions
Vibration	Per JESD22-B-103-A 20 g Peak (20 Hz to 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 ⁻⁸ 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	Tristate
2	Ground
3	Output
4	+V _{DD}

Part Marking	
Line 1	M2002T197
Line 2	25M0000
Line 3	M yyww

Legend	
yy	Year
ww	Work week

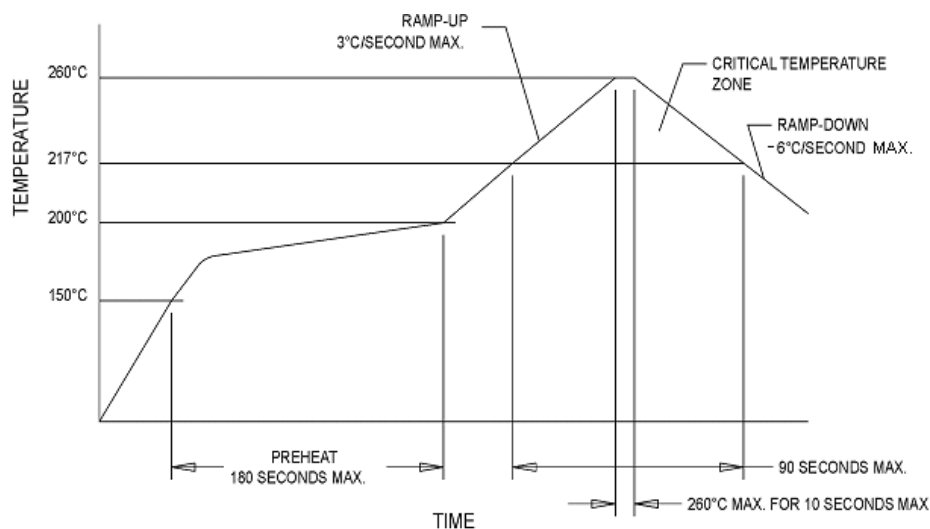
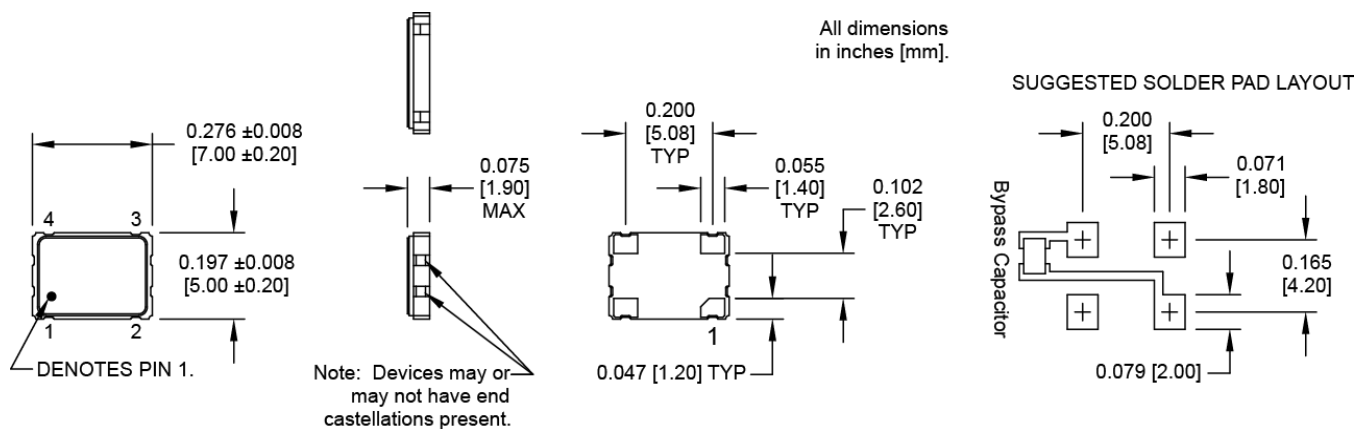


Figure 1

Data Sheet Revision Table:

Date	Rev.	Author	Details of Revision
10/14/13	0	LEO	Original release