

## SPECIFICATION FOR HCMOS COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2010S152

### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F <sub>o</sub>		50.000000		MHz	
Frequency Stability	ΔF/F	-70		+70	ppm	Includes initial tolerance, deviation over temperature.
Frequency Vs. Supply		-10		+10	ppm	For ± 0.5 V voltage change.
Frequency Vs. Aging		-10		+10	ppm	First year @ +25°C
		-20		+20	ppm	Over 20 years.
Total Frequency Deviation		-100		+100	ppm	Includes initial tolerance, deviation over temperature, supply, and aging.
Operating Temperature	T <sub>A</sub>	-55		+125	°C	
Storage Temperature	T <sub>S</sub>	-65		+125	°C	
Operating Supply Voltage	V <sub>DD</sub>	4.5	5.0	5.5	V	
Absolute Supply Voltage				+7.0	V	
Operating Supply Current	I <sub>DD</sub>			35	mA	15 pF load.
Power Dissipation				450	mW	
Output Type		HCMOS Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T <sub>DC</sub>	45		55	%	Ref to ½ V <sub>DD</sub>
Logic "1" Level	V <sub>OH</sub>	V <sub>DD</sub> - 0.2			V	
Logic "0" Level	V <sub>OL</sub>			0.2	V	
Output Current (Sink)	I <sub>OL</sub>			600	μA	
Output Current (Source)	I <sub>OH</sub>			600	μA	
Rise/Fall Time	T <sub>R</sub> /T <sub>F</sub>			3	ns	From 10% to 90% V <sub>DD</sub>
Tri-state Enable Voltage	V <sub>ih</sub>	3.0			V	Pad 1
Tri-state Disable Voltage	V <sub>il</sub>			0.8	V	Pad 1
Tri-state Enable Time				100	ns	
Tri-state Disable Time				100	ns	

### Environmental & Mechanical Requirements:

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)
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 <sup>-8</sup> atm cc/s of Helium)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	5 X 7 X 1.9 mm leadless ceramic. RoHS compliant.

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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	M2010152
Line 2	50M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work Week
vv	Factory code

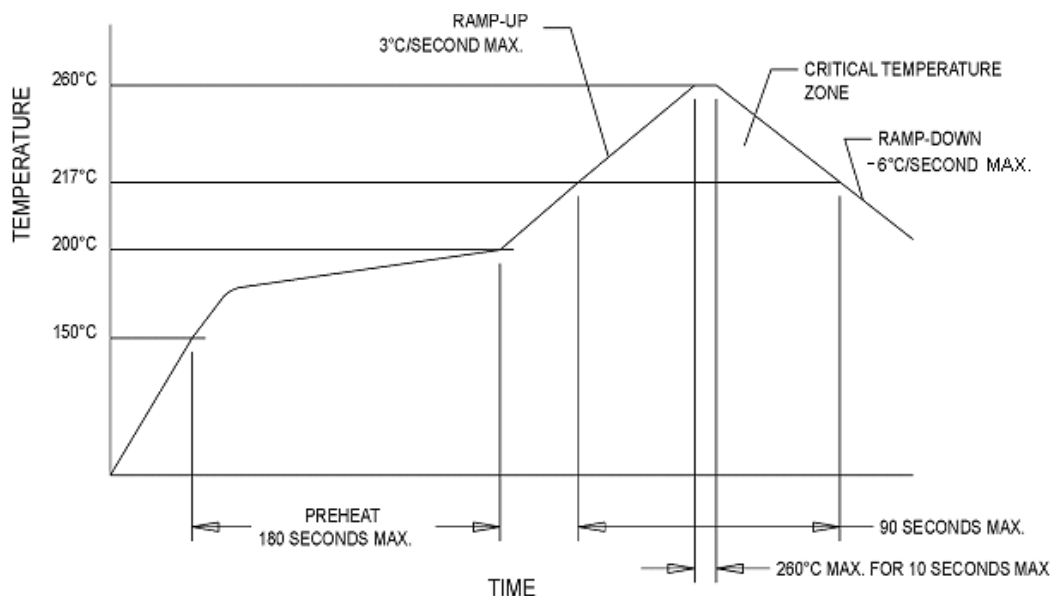
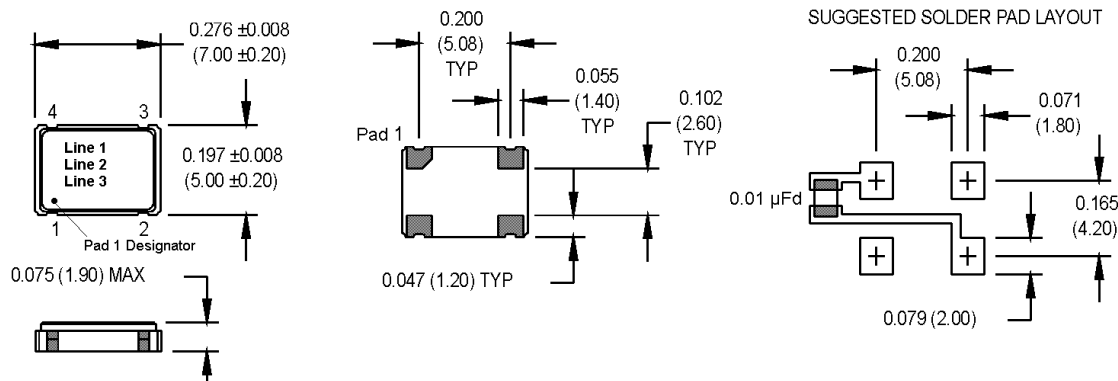


Figure 1