1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
Website: www.mtronpti.com

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR
MtronPTI P/N M2002S918

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		20.000000		MHz	
Frequency Stability	$\Delta F/F$	-50		+50	ppm	
Operating Temperature	T_A	-40		+125	°C	
Storage Temperature	T_S	-55		+125	°C	
Aging		-3		+3	ppm	1st year
		-2		+2	ppm	Thereafter (per year)
Operating Voltage	V_{DD}	3.00	3.3	3.60	V	
Operating Current	I_{DD}			20	mA	
Output Type		HCMOS/TTL Compatible				
Output Load				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
				0.5	V	TTL Load
Output Current	I_{OH}	-4			mA	
Output Current	I_{OH}			+4	mA	
Rise/Fall Time	T_R/T_F			6	ns	From 10% to 90% V_{DD}
Random Jitter	R_J		4	10	ps RMS	1-Sigma
Start-up Time	T_{SU}			10	ms	

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^{-8} atm cc/s of Helium)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4-pad 5 X 7 mm leadless ceramic. Sn-Pb tinned pads.
Process Flow	See Appendix 1, page 3.

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Dimensions, Marking, and Pin Out Information:

Pad	Function
1	N/C
2	Ground
3	Output
4	$+V_{DD}$

Part Marking	
Line 1	M2002S918
Line 2	20M0000
Line 3	M yyww

Legend	
yy	Year
ww	Work week

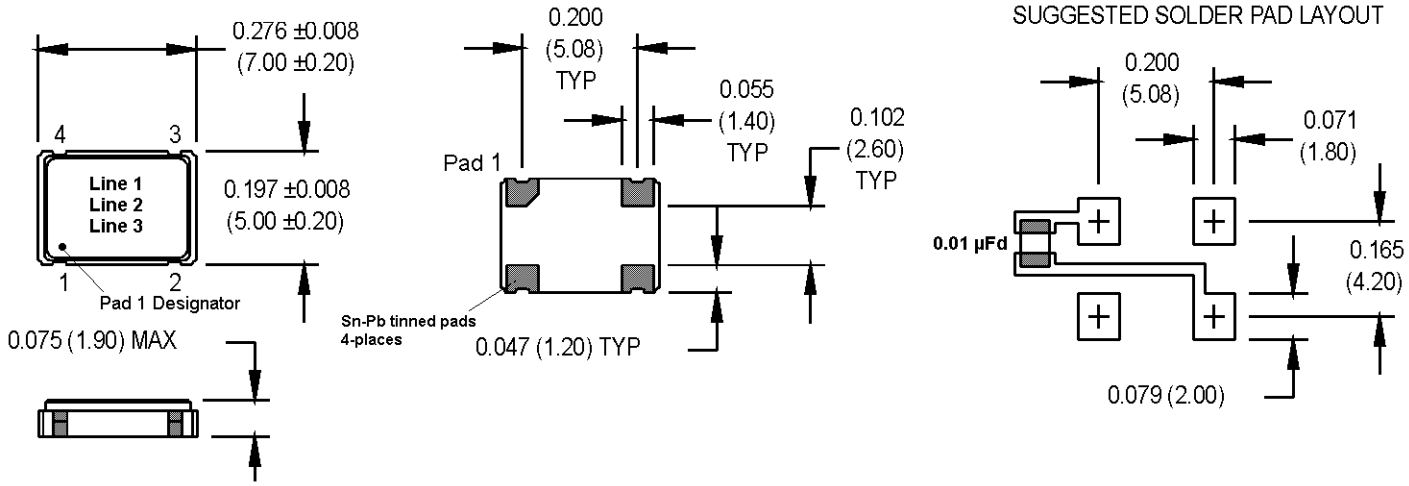
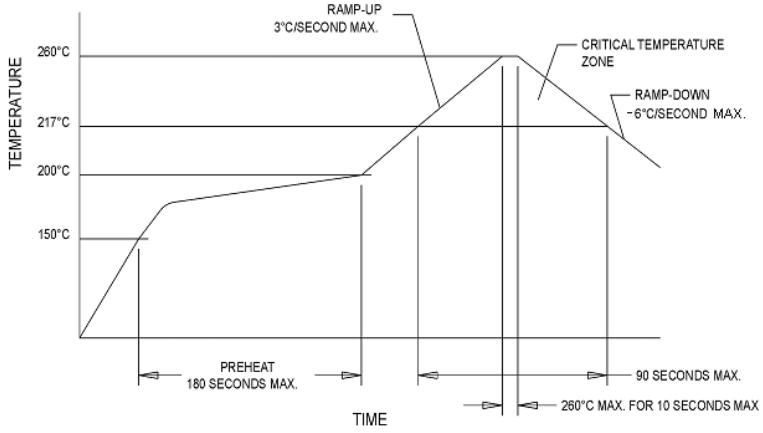


Figure 1



Process Flow Chart for MtronPTI P/N M2002S918

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