MtronPTI ...when timing matters

P.O. Box 630 100 Douglas Ave. Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
Website: www.mtronpti.com

SPECIFICATION FOR SMT HCMOS OUTPUT OSCILLATOR
MtronPTI P/N M6300S038

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_0		96.000		MHz	
Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-55		+125	°C	
Frequency Stability	ΔF/F	-2.0		+2.0	ppm	±(Max-Min)/2
Frequency vs. Supply	F_{VDD}	-0.4		+0.4	ppm	±5% voltage variation
Frequency vs. Aging	F_A	-3		+3	ppm	1st year
		-1		+1	ppm	Per year thereafter
Frequency vs. Load	F_L	-0.2		+0.2	ppm	±5% load variation
Operating Voltage	V_{DD}	3.135	3.3	3.465	V	
Operating Current	I_{DD}			90	mA	
Output Type		HCMOS				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	45		55	%	@ 50% of waveform
Logic "1" Level	V_{OH}	90% Vdd			V	
Logic "0" Level	V_{OL}			10% Vdd	V	
Rise/Fall Time	T_R/T_F			4.0	ns	From 10% to 90% V_{DD}
Phase Jitter	ΦJ			1.0	ps RMS	Integrated 12kHz to 20MHz
Tri-state Enable Logic		80% V_{DD} or N/C			V	Pad 1
Tri-state Disable Logic				0.5	V	Pad 1. Output to high-Z
Start-up Time	T_{SU}			10	ms	
Phase Noise (typical)	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	
	-70	-90	-120	-135	-140	dBc/Hz

Environmental Conditions:

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 Shock	Per MIL-STD-883, Method 1011, Condition A
Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B
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	5.0 x 7.0 x 1.9 mm, 6 Pad Ceramic Leadless Chip Carrier
Termination (Pad) Material	10 to 15 µm of tungsten (W), 1.29 to 8.89 µm of nickel (Ni), 0.3 to 1.0 µm of gold (Au)
Moisture Sensitivity Level	1

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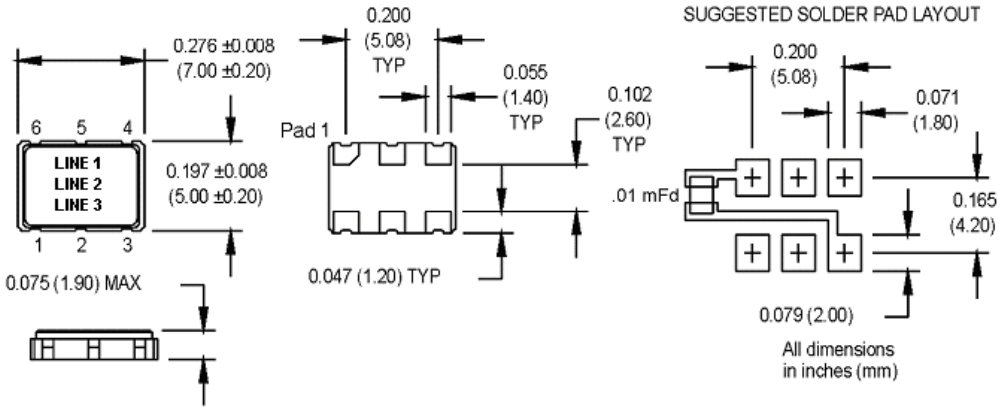
Mechanical, Marking and Layout Information:

Pad	Function
1	Tri-state
2	N/C
3	Ground
4	Output
5	N/C
6	$+V_{DD}$

Part Marking	
Line 1	M6300S038
Line 2	96M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code



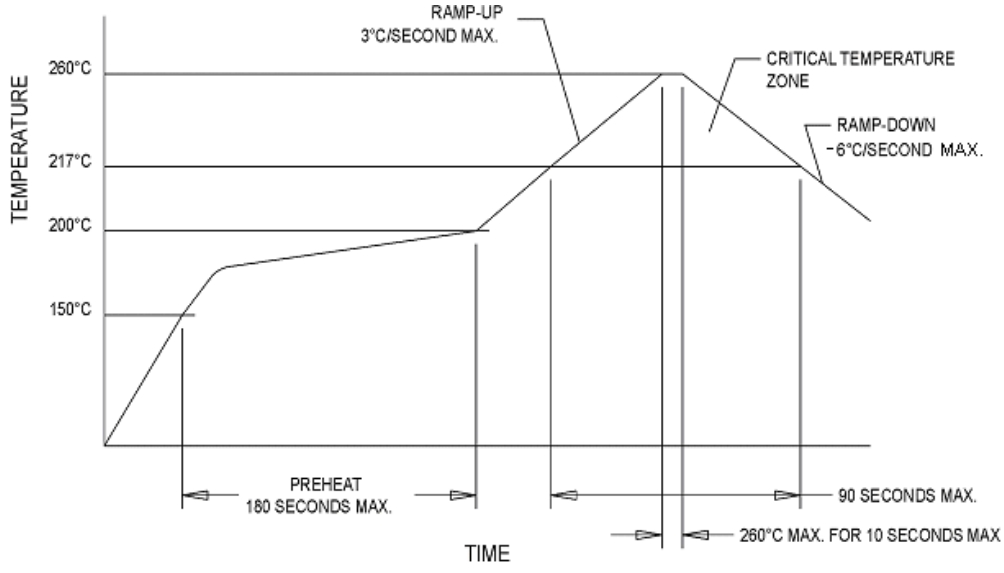


Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
9/10/10	0	MM	Original release.