MtronPTI ...when timing matters

1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
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SPECIFICATION FOR LVPECL SMT OSCILLATOR
MtronPTI P/N: M6300S069

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_0		621.00000		MHz	
Operating Temperature	T_A	-55		+125	°C	
Storage Temperature	T_S	-55		+125	°C	
Frequency Stability	ΔF/F	-4.6		+4.6	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
Frequency vs. Reflow	F_R	-0.75		+0.75	ppm	2 reflows max.
Operating Voltage	V_{DD}	3.135	3.3	3.465	V	
Operating Current	I_{DD}			125	mA	
Output Type		LVPECL				
Output Load		50 Ω to V_{DD} - 2 V				
Symmetry (duty cycle)	T_{DC}	45		55	%	@ 50% of waveform
Output Skew				200	ps	
Logic "1" Level	V_{OH}	V_{DD} - 1.02			V	LVPECL load
Logic "0" Level	V_{OL}			V_{DD} - 1.63	V	LVPECL load
Output Skew			20		ps	
Rise/Fall Time	T_R/T_F			0.35	ns	From 20% to 80% V_{DD}
Phase Jitter	ΦJ			1.5	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	
	-60	-90	-120	-127	-133	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. Sn-Pb tinned pads
Termination (Pad) Material	Sn-Pb tinned pads.
Moisture Sensitivity Level	1

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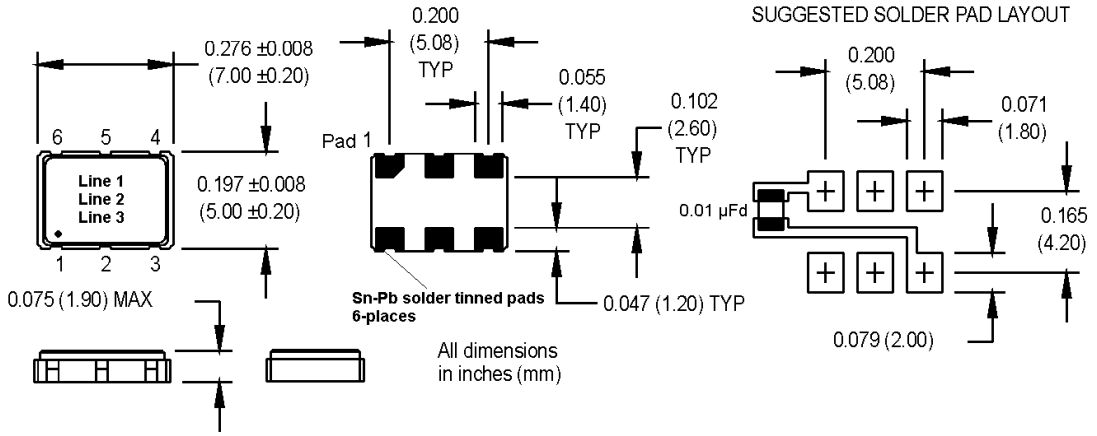
Mechanical, Marking and Layout Information:

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

Part Marking	
Line 1	M6300S069
Line 2	621M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code



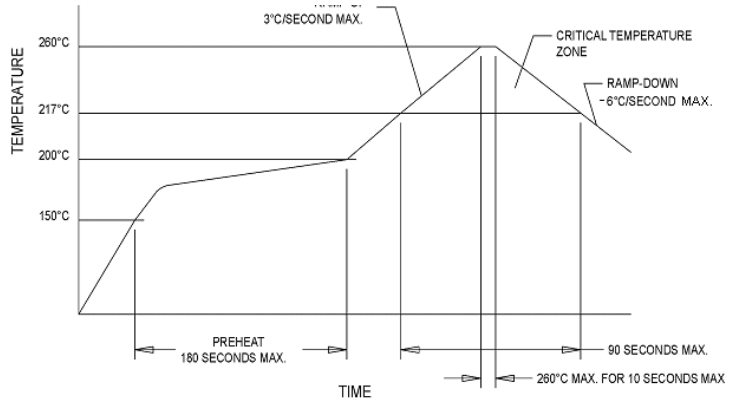


Figure 1

Data Sheet Revision Table:

Date	Rev.	Author	Details of Revision
07/03/13	0	MM	Original release.
09/05/13	A	LEO	Updated Customer PN