MtronPTI ...when timing matters

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 SMT TCXO
MtronPTI P/N: M6300S052

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		350.000000		MHz	
Frequency Tolerance		-2.0		+2.0	ppm	@ + 25°C
Frequency Stability	$\Delta F/F$			2.5	ppm	([F_{max}-F_{min}] /2)
Frequency Vs. Aging		-3		+3	ppm	First year.
		-1		+1	ppm	Per year thereafter.
Frequency Vs. Reflow			± 0.75		ppm	Two reflows max.
Frequency Vs. Supply			± 0.4		ppm	5% supply variation
Frequency Vs. Load			± 0.2		ppm	5% load variation
Operating Temperature	T_A	-10		+75	°C	
Storage Temperature	T_S	-55		+125	°C	
Operating Voltage	V_{cc}	3.135	3.3	3.465	V	
Operating Current	I_{cc}			125	mA	
Output Type		Complementary LVPECL Compatible				
Output Load	R_L	50 Ω to (V_{CC} – 2)			VDC	
Logic "1" Level Output	V_{OH}	V_{cc} –1.02			V	
Logic "0" Level Output	V_{OL}			V_{cc} – 1.63	V	
Symmetry (Duty Cycle)	T_{DC}	45		55	%	Ref. at 50% of waveform
Output Skew			20		ps	LVPECL load
Rise/Fall Time	T_R/T_F			0.35	ns	From 20% to 80% V_{DD}
Period Jitter (RMS)	P_J		3.0	5.0		
Phase Jitter (RMS)	Φ_J		0.5	1.5	pS RMS	Integrated 12kHz to 20MHz
Phase Noise			-70		dBc/Hz	10 Hz offset
			-95		dBc/Hz	100 Hz offset
			-120		dBc/Hz	1kHz offset
			-130		dBc/Hz	10 kHz offset
			-132		dBc/Hz	100 kHz offset

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)
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
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	6-pad 5 X 7 X 1.9 mm leadless ceramic. RoHS compliant. M6300 Type

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Dimensions, Pin Out, & Marking Information:

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

Part Marking	
Line 1	M6300S052
Line 2	350M0000
Line 3	M yyww

Legend	
yy	Year
ww	Work week

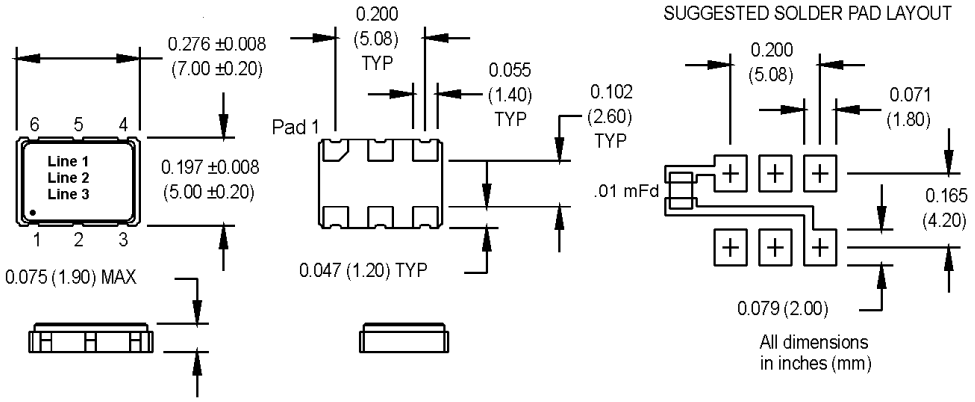
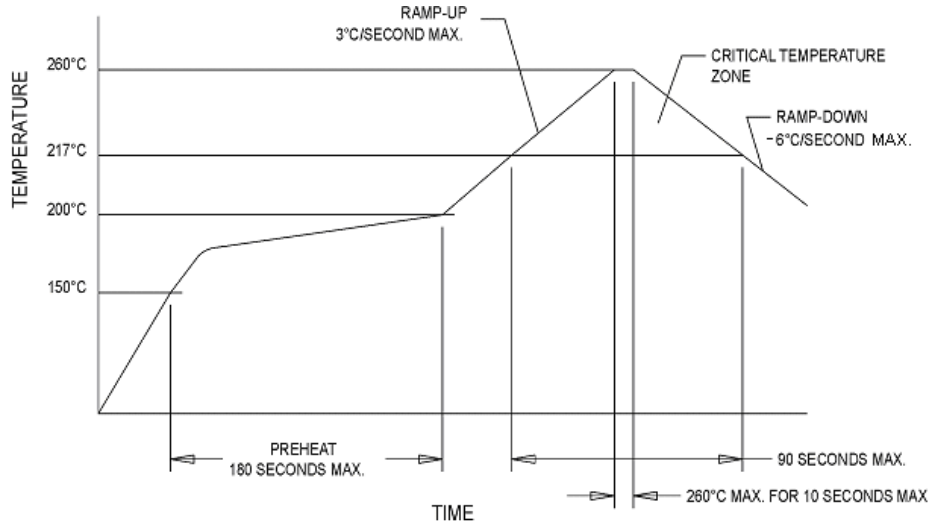


Figure 1



Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
1/22/12	0	MM	Original release.

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