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 RoHS 6 COMPLIANT SMT VCTCXO
MtronPTI P/N M6161S022

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		10.0000000		MHz	
Initial Accuracy	F_I	-1.0		+1.0	ppm	@ 25˚C
Frequency Stability	ΔF/F	-2.5		+2.5	ppm	Over operating temperature ($F_{Max} – F_{Min}$)/2
Frequency Vs. Reflow		-1.0		+1.0	ppm	
Frequency Vs. Supply			± 0.02	± 0.1	ppm	For 5% supply change
Frequency Vs. Load			± 0.02	± 0.1	ppm	For 5% load change
Operating Temperature	T_A	-40		+85	°C	
Operating Voltage	V_{DD}	3.135	3.3	3.465	V	
Operating Current	I_{DD}			3.0	mA	
Output Type		HCMOS Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	45	50	55	%	@ 50% of V_{DD}
Logic “1” Level	V_{OH}	80% V_{DD}			V	HCMOS load
Logic “0” Level	V_{OL}			20% V_{DD}	V	HCMOS load
Rise/Fall Time	T_R/T_F			7	nS	From 10% to 90% V_{DD}
Frequency Adjust Range		± 9.2			ppm	Over Control Voltage Range. Pad 10.
Control Voltage Range		0.3	1.65	3.0	V	Pad 10
Linearity				5	%	Positive slope. Pad 10
Input Leakage Current		-50		+50	µA	Pad 10
Input Resistance		100			kΩ	Pad 10
Modulation Bandwidth		2			kHz	Pad 10
Tri-state Enable Logic		70% V_{DD}			V	Pad 8
Tri-state Disable Logic				30% V_{DD}	V	Pad 8. Output to high-Z
Phase Noise			-102		dBc/Hz	@ 10 Hz
			-132		dBc/Hz	@ 100 Hz
			-150		dBc/Hz	@ 1 kHz
			-155		dBc/Hz	@ 10 kHz
			-156		dBc/Hz	@ 100 kHz

Environmental Conditions:

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)
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of Helium) (Crystal Only)
Storage Temperature	-55°C to +125°C
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	5.0 x 7.0 x 2.0 mm, 10-pad Ceramic Leadless Chip Carrier

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 RoHS 6 COMPLIANT SMT VCTCXO
MtronPTI P/N M6161S022

Mechanical, Marking and Layout Information:

Pad	Function
1	N/C or Ground (suggested)
2	N/C
3	N/C
4	Ground/Case
5	Output
6	N/C
7	N/C
8	Tri-state
9	$+V_{DD}$
10	Control Voltage

Part Marking	
Line 1	M61 ym
Line 2	10M000

Legend	
Y	Year
m	Month

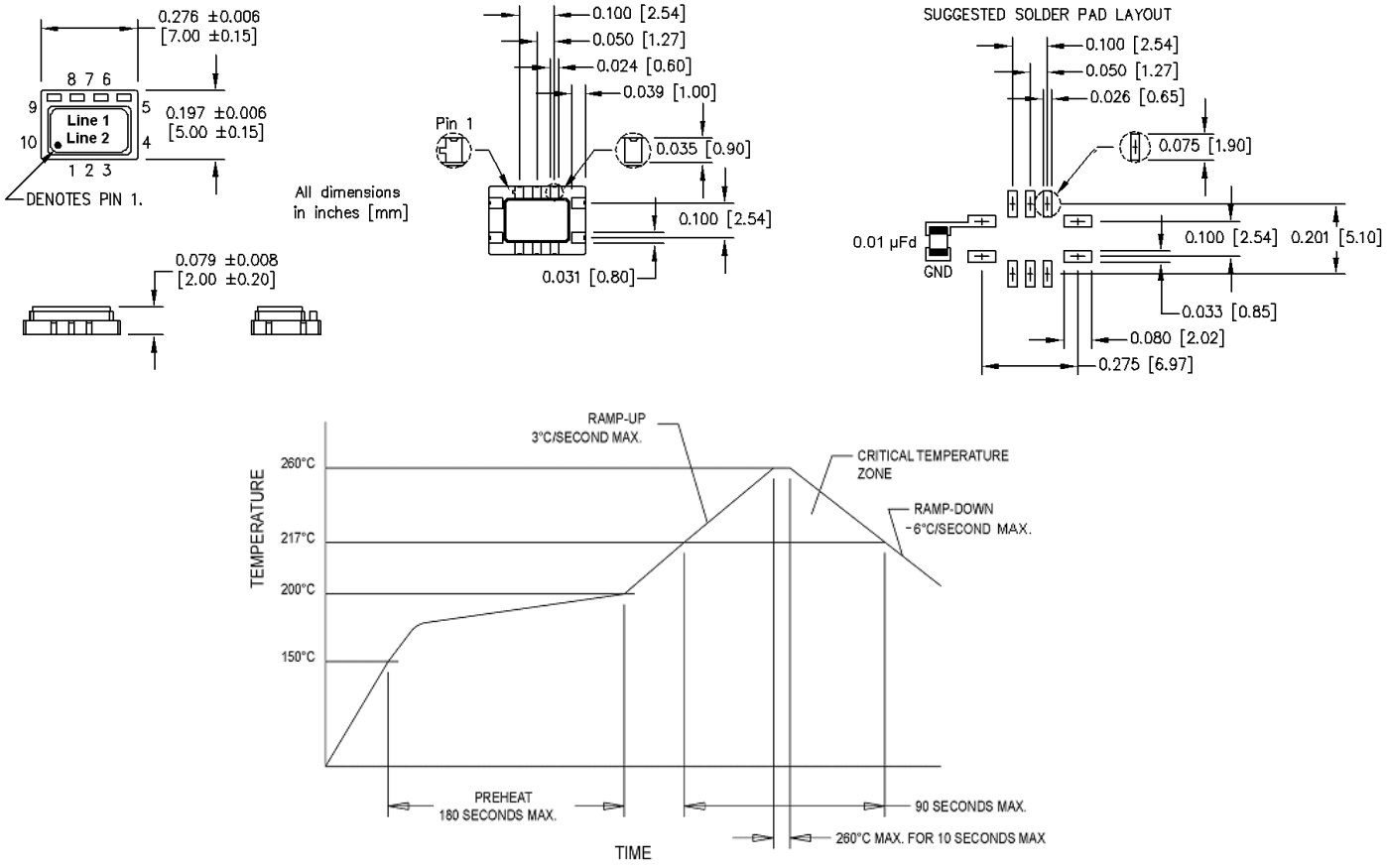

Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
4/5/13	0	MM	Original release.