

**SPECIFICATION FOR SMT VCTCXO**  
**MtronPTI P/N M6160S008**  
**(Ref. P/N: TBD)**  
**Effective Date: March 14, 2016**

**Electrical Specifications:**

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency	$F_O$		10.000000		MHz	
Frequency Tolerance		-0.5		+0.5	ppm	@ 25°C, within 10 seconds
<b>Frequency Stabilities</b>						
Frequency vs Temperature	$\Delta F/F$	-0.3		+0.3	ppm	Over operating temperature range (Relative to frequency @ +25°C)
Frequency vs. Supply			$\pm 0.02$	$\pm 0.1$	ppm	For 5% supply variation
Frequency vs. Load			$\pm 0.02$	$\pm 0.1$	ppm	For 5% load variation
Frequency vs. Aging		-0.5		+0.5	ppm	First year.
Frequency Deviation Slope				0.20	ppm/°C	Over -40°C to +90°C, Measured @ 5°C increment
<b>Output</b>						
Output Type			Clipped Sine Wave			
Output Load			10 k $\Omega$    10 pF			$\pm 5\%$
Output Level	$V_{OUT}$	1.0			V	pk-pk
Tri-state Function (Pad 8)		$70\%V_S$		$30\%V_S$	$V_{DC}$	Pad 8: Output Enabled Pad 8: Output Disabled to high-Z
<b>Frequency Adjustment</b>						
Adjustment Method		External Voltage				
Control Voltage Range	$V_C$	0.5	2.5	4.5	$V_{DC}$	Pad 10
Tuning Range		$\pm 5.0$			ppm	Positive slope.
Linearity				5	%	
Input Impedance	$Z_{IN}$	100			K $\Omega$	
<b>Additional Specifications</b>						
Phase Noise			-101		dBc/Hz	@ 10 Hz
			-123			@ 100 Hz
			-145			@ 1 kHz
			-155			@ 10 kHz
			-155			@ 22 kHz
			-156			@ 100 kHz
<b>Supply Voltage/Current &amp; Temperature Ranges</b>						
Operating Voltage	$V_S$	+4.75	5.0	5.25	$V_{DC}$	
Operating Current	$I_S$			4.0	mA	
Operating Temperature	$T_A$	-40		+90	°C	
Storage Temperature	$T_S$	-55		+125	°C	

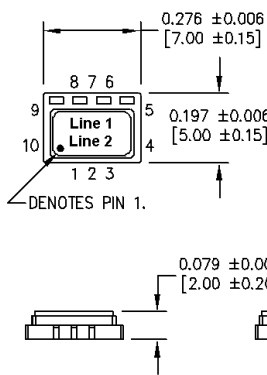
**Environmental Conditions:**

Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6msec duration, 1/2 sinewave)
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000Hz)
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/s of Helium) (Crystal Only)
Solderability	Per EIAJ-STD-002
Package Type	5.0 x 7.0 x 1.8mm, 10-pad Ceramic Leadless Chip Carrier

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**Dimensions and Pin-Out Information:**

Pad	Function
1	N/C
2	N/C
3	N/C
4	Ground/Case
5	Output
6	N/C
7	N/C
8	Tri-state
9	+V <sub>DD</sub>
10	Control Voltage



All dimensions in inches [mm]

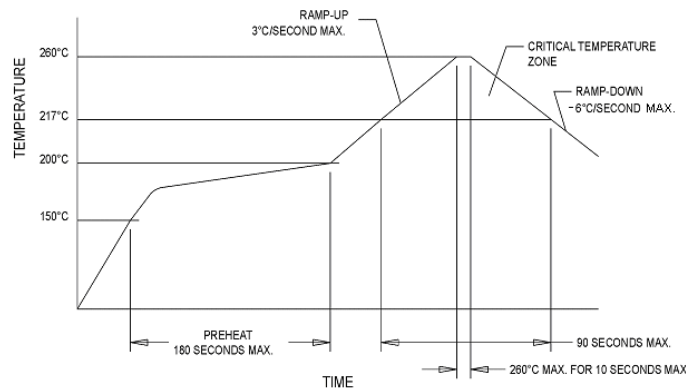
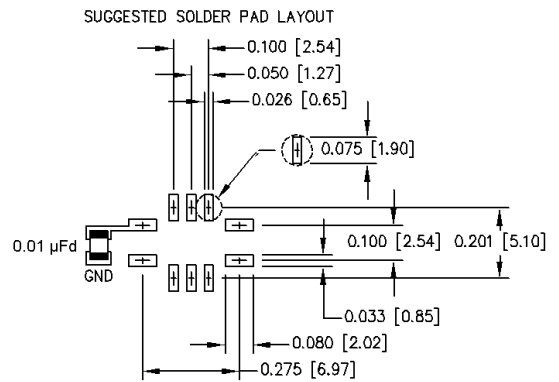
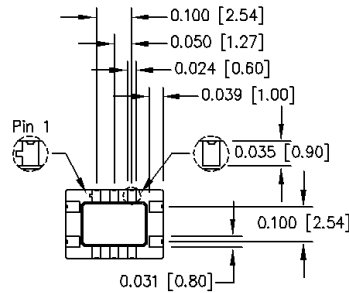


Figure 1

**DATA SHEET REVISION TABLE:**

Date	Rev.	Author	Details of Revision
04/25/14	0	MM	Original release.
07/16/14	A	MM	Updated 1 <sup>st</sup> year aging specification.
06/25/15	B	MM	Updated room temperature tolerance.
03/14/16	C	MM	Updated stability specification to absolute.