

SPECIFICATION FOR SMT VCTCXO

MtronPTI P/N M6161S056

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency	F_0		20.000000		MHz	
Frequency Tolerance		-1.0		+1.0	ppm	@ 25°C, at time of shipment
Frequency Stabilities						
vs Temperature	$\Delta F/F$	-0.2		+0.2	ppm	Over operating temperature range (Relative to frequency @ +25°C)
vs. Hysteresis		-0.3		+0.3	ppm	
vs. Supply			± 0.02	± 0.1	ppm	For 5% supply variation
vs. Load			± 0.02	± 0.1	ppm	For 5% load variation
vs. Aging		-0.5		+0.5	ppm	First year.
Output						
Output Type		HCMOS Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	40	50	60	%	@ 50% of V_{DD}
Output Logic Levels	V_{OL}			20	% V_{DD}	
Output Level	V_{OH}	80			% V_{DD}	
Rise/Fall Time				6.5	ns	Ref. 10% and 90%
Tristate Function (Pad 8)		70% V_S			V_{DC}	Pad 8: Output Enabled
				30% V_S		Pad 8: Output Disabled to high-Z
Frequency Adjustment						
Adjustment Method		External Voltage				
Control Voltage Range	V_C	+0.3	1.65	+3.0	V_{DC}	Pad 10
Tuning Range		± 5			ppm	Positive slope.
Additional Specifications						
Phase Noise			-101		dBc/Hz	@ 10 Hz
			-123		dBc/Hz	@ 100 Hz
			-145		dBc/Hz	@ 1 kHz
			-155		dBc/Hz	@ 10 kHz
			-155		dBc/Hz	@ 22 kHz
			-156		dBc/Hz	@ 100 kHz
G-sensitivity				2.0	ppb/g	
Supply Voltage/Current & Temperature Ranges						
Operating Voltage	V_S	3.135	3.3	3.465	V_{DC}	
Operating Current	I_S			4.0	mA	

Environmental Conditions:

Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-55		+125	°C	
Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6msec duration, ½ 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 ⁻⁸ 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 _{DD}
10	Control Voltage

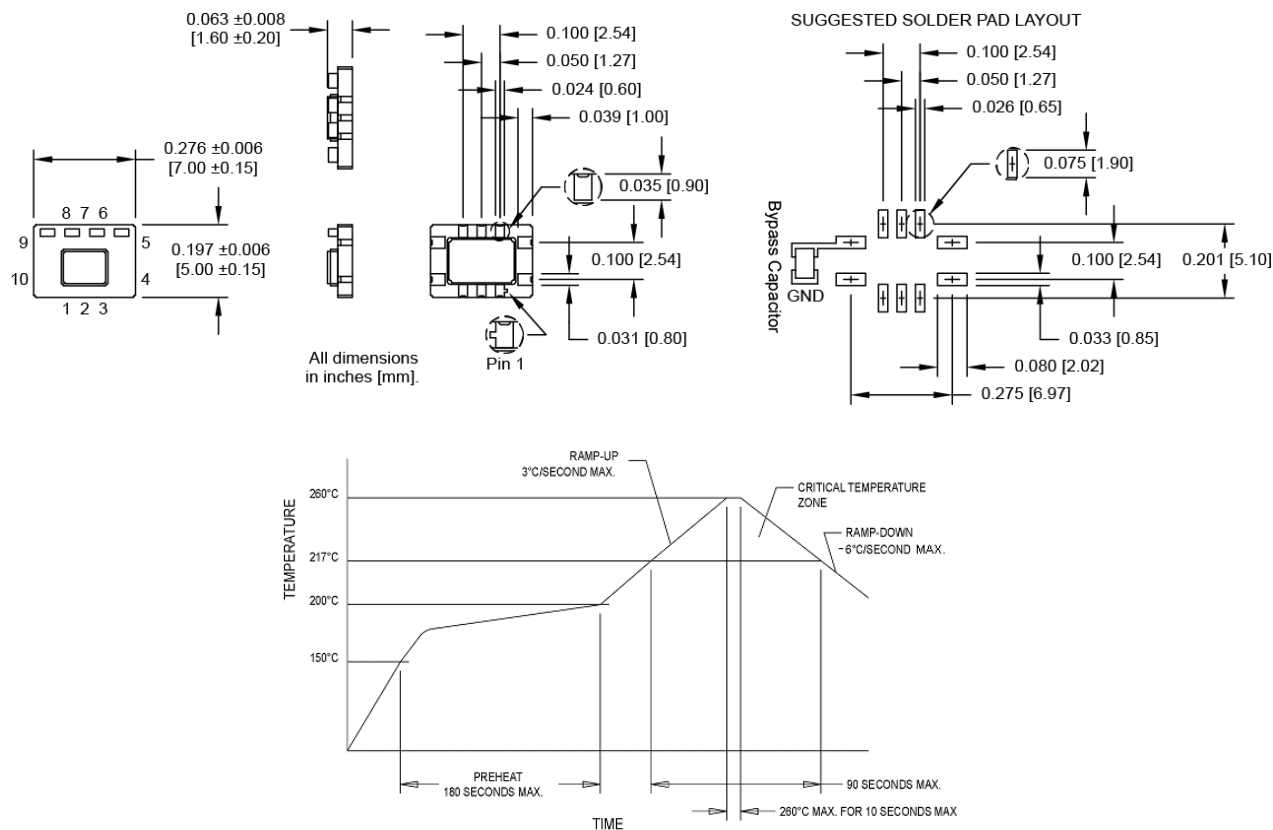


Figure 1

DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
04/03/18	0	MM	Original release.
12/06/18	A	MM	Updated hysteresis specification limit from $\pm 0.2\text{ppm}$ to $\pm 0.3\text{ppm}$.