MtronPTI
...when timing matters

SPECIFICATION FOR LOW PHASE NOISE CMOS VCXO
MtronPTI P/N: M3027S003

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		161.525000		MHz	
Frequency Stability						
Frequency Stability	ΔF/F	Included in Absolute Pull Range Specification				
Aging		-5		+5	ppm	1st year
		-3		+3		Per year thereafter
RF Output						
Output Type		CMOS				
Output Load		15 pF CMOS load				
Symmetry (duty cycle)	T_{DC}	45		55	%	@ 50% Vdd
Logic "0" Level	V_{OL}			10% Vdd	V	
Logic "1" Level	V_{OH}	90% Vdd			V	
Rise/Fall Time	T_R/T_F			3.0	ns	10% to 90% Vdd
Start-up Time	T_{SU}			10	ms	$T_{ambient}$ = +25°C
Frequency Adjustment						
Control Voltage		0.30	1.65	3.00	V	Pad 1
Absolute Pull Range	APR	±25			ppm	Referenced to Fo, including tolerance at +25 °C, deviation over operating temperature, aging, shock, vibration, supply voltage
Modulation Bandwidth	f_m	10			kHz	-3 dB
Input Impedance	Z_{in}	50			kΩ	Pad 1
Linearity				10	%	
Supply Voltage & Power Consumption						
Operating Voltage	V_{CC}	3.135	3.300	3.465	V	
Supply Current	I_{CC}			50	mA	
Other Parameters						
Phase Noise			-150		dBc/Hz	10 kHz offset

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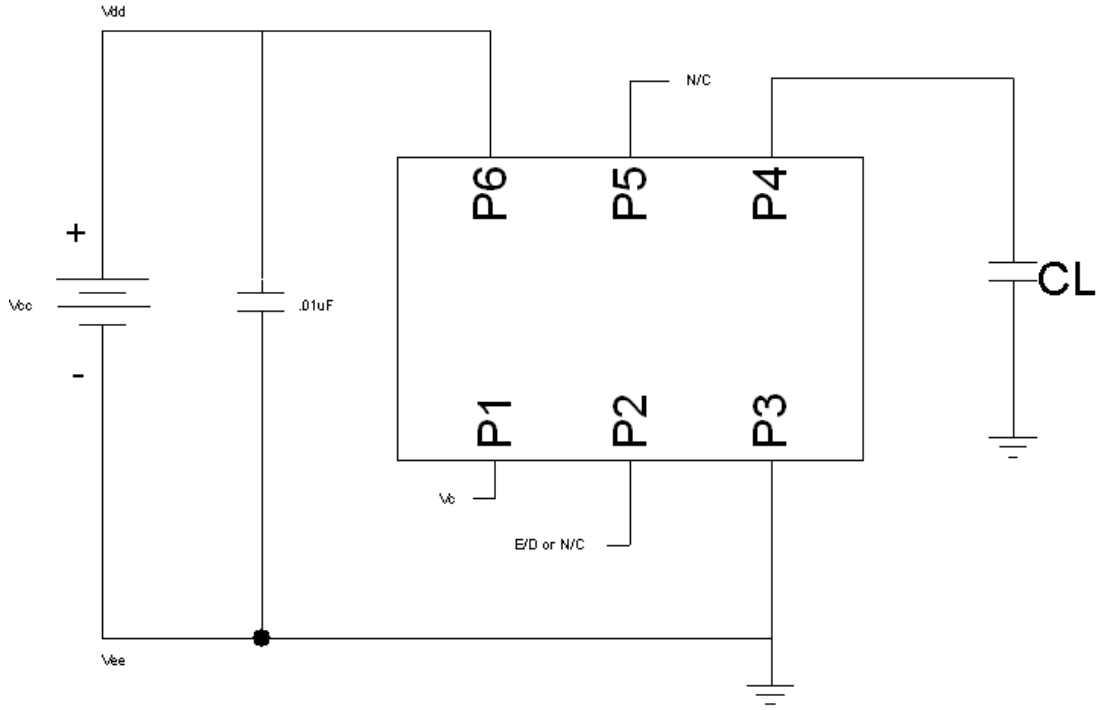
Environmental & Packaging Requirements:

Operating Temperature	T_A	-20		+70	°C	
Storage Temperature	T_S	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E					
Vibration	Per MIL-STD-202, Method 204D, Condition D					
Aging	+85°C ±3°C, 720H (No BIAS)					
Humidity	+40°C ±2°CX90~95%, 96H (NO BIAS)					
Thermal Cycle	Per MIL-STD-883, Method 1011, Condition A					
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of Helium)					
Moisture Sensitivity Level	MSL1					
Solderability	Per EIAJ-STD-002, Method 208					
Max. Soldering Conditions	See solder profile, Figure 1					
Pad Termination	Gold, 1 µm maximum thickness					
Package Type	6-pad 5.0 X 7.0 mm leadless ceramic. RoHS compliant.					

Typical LVCMOS Test Circuit & Load Circuit Diagrams:



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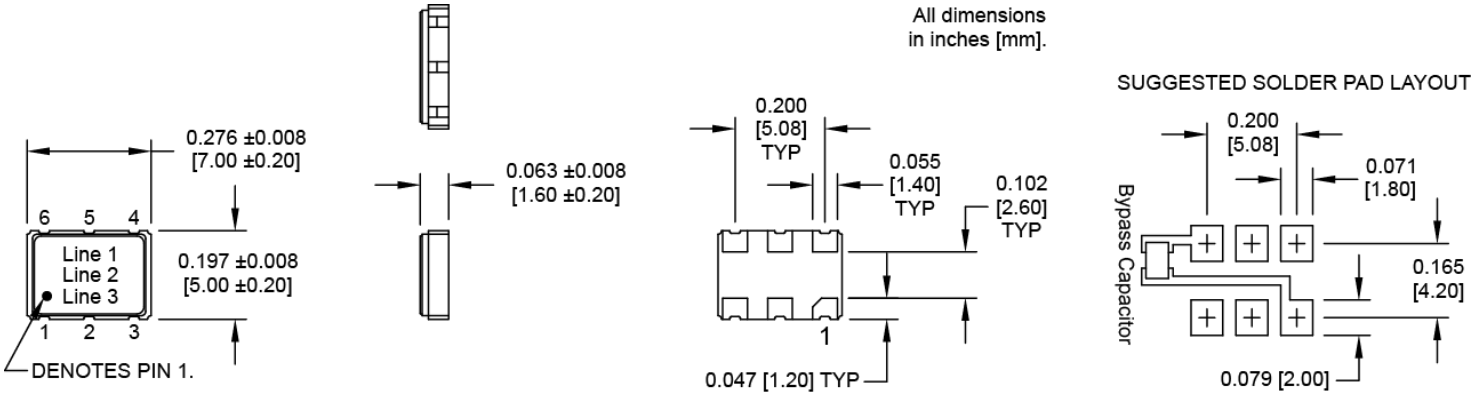
Marking, Pin Out:

Pad	Function
1	Control Voltage
2	NC
3	Ground
4	Output
5	N/C
6	$+V_{CC}$

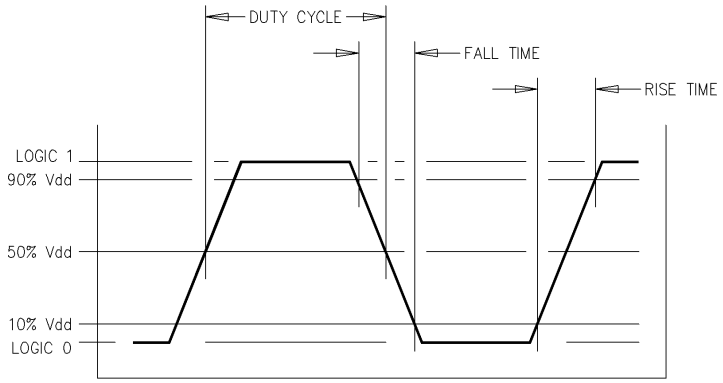
Part Marking	
Line 1	161M5250
Line 2	Myywwvv

Legend	
M	MtronPTI
yy	Year
ww	Work Week
vv	Factory code

Dimensions:



Output Waveform:



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Soldering Conditions:

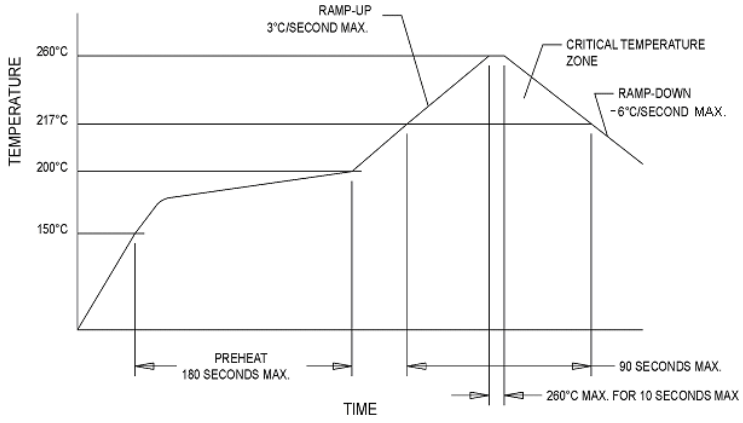

Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
05/02/17	0	MM	Original release