MtronPTI ...when timing matters

2525 Shader Road Orlando Florida 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX: LGL

Specification for an HCMOS OCXO
MtronPTI P/N: XO5084-074sR
Effective Date: May 8, 2019

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		38.400000		MHz	
Frequency Stabilities						
Initial Accuracy		-0.2		+0.2	ppm	At Time of shipment
vs. Temperature	$\Delta F_T/F$	-100		+100	ppb	over operating temperature range
vs. Supply Voltage	$\Delta F_{VDD}/F$	-2		+2	ppb	+/- 5% change
vs. Load		-2		+2	ppb	+/- 5% change
Daily Aging		-3		+3	ppb	After 30 days
Yearly Aging		-300		+300	ppb	
10 year Aging		-1.2		+1.2	ppm	
Short term			0.1E-9			@ 0.1 second
			0.1E-9			@1 second
Frequency Adjust						
Adjustment Method			External Voltage			
Adjustment Voltage	Vtune	0		2.8	Vdc	
Tuning		±1.5		+3	ppm	Ref. to frequency at nominal center voltage
Adjustment Slope			Positive			
Linearity		-10%		+10%		
Input Impedance		50			kΩ	
Frequency Response		1			kHz	
RF Output						
Output Type			CMOS			
Output Load			15		pF	
Symmetry (duty cycle)	T_{DC}	45	50	55	%	@ 50% of waveform
Logic "1" Level	V_{OH}	3.4			V	
Logic "0" Level	V_{OL}			0.4	V	
Rise/Fall time				6	ns	10% to 90%
Temperature and Supply Voltage						
Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-50		+90	°C	
Operating Voltage	V_{DD}	3.13	3.3	3.46	V	
Power Consumption				2	W	Steady state @ 25°C In still air
				4	W	@ warm-up
Warm-up Time (Restabilization)				3	Minutes	Time to be within ±100 ppb of the frequency after 24 hours of operation @ 25°C
Additional Parameters						
Phase Noise (under static conditions)						
			-95		dBc/Hz	10 Hz
			-122		dBc/Hz	100 Hz
			-145		dBc/Hz	1KHz
			-155		dBc/Hz	10 KHz
			-160		dBc/Hz	100 KHz

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Retrace		-100		+100	ppb	4 minutes after turn on, 2 hours minimum on time, and 24 hours maximum of time.
Spurious				-60	dBc	
Sub-Harmonics			None		dBc	

Environmental Conditions:

Humidity	Per MIL-STD-202, Method 103, Test Condition A (95% RH @ +40C, non-condensing, 240hours)
Mechanical Shock (non-operating)	Per MIL-STD-202, Method 213, Test Condition J (30g, 11ms, ½ sine)
Vibration (non-operating)	Per MIL-STD-202, Method 201 (0.06" total p-p, from 10-55 Hz)
Re-flow	Bottom side assembly forbidden

Mechanical, Marking and Layout Information:

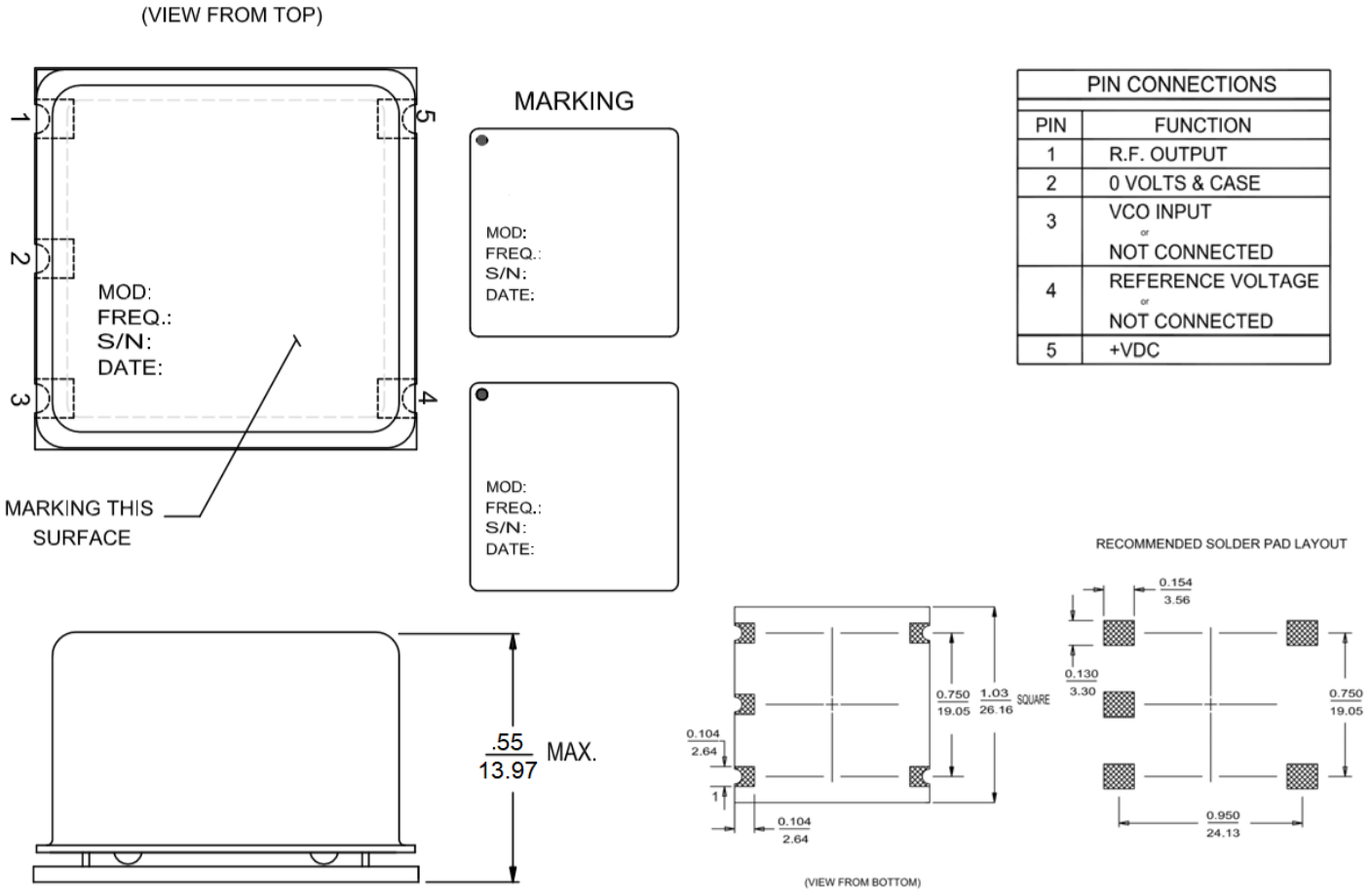

Figure 1

Data Sheet Revision Table:

Date	Rev.	Author.	Details of Revision
05-10-19	A	BRR	Preliminary Release