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

XO5124-028R

MtronPTI MODEL:

ENG APPROVAL: MWJM

DATE: 1/28/13

MFG APPROVAL

DATE: 1/28/13

Specification for an LVCMOS Output Thru-Hole OCXO
MtronPTI P/N: XO5124-028R
Newpostcom P/N: T. B. D.

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		10.0000		MHz	
Initial Frequency Accuracy				±100	ppb	At the time of shipment, after 30-minutes power on and with V_{TUNE} = +2.5V_{DC}
Frequency Stability						
Over Temperature Range				6.0	ppb	Peak-Peak Over -10°C to +70°C
Aging (after 30-days continuous operation)				±0.5	ppb	Daily (Verified before Shipment)
				±50	ppb	Yearly
				±300	ppb	Over 10-Years
				±400	ppb	Over 15-Years
vs Supply Variation				±1.0	ppb	±5% change in V_{CC}
vs Load Variation				±1.0	ppb	±5% change in load
Retrace (Ref. to Freq. @ Power-off)				±10	ppb	@ 25°C, after 24-hours on, then ≤ 24-hours off and then ≤ 15-minutes from power-on
Short Term Frequency Stability (after stabilization time of 1-hour)				$1x10^{-11}$		Tau=1-second
				$5x10^{-11}$		Tau=100-seconds
RF Output						
Output Type			LVCMOS			
Logic Level '1'	V_{OH}	≥ +2.4		≤ +3.3	V_{DC}	
Logic Level '0'	V_{OL}		≤ +0.2		V_{DC}	
Rise/Fall Times	T_R/T_F			≤ 5	*ηsec*	
Duty Cycle		45		55	%	
Output Load			15		*pF*	
Frequency Adjustment						
Adjustment Method			External Voltage			
Tuning Voltage	V_{TUNE}	0		+5.0	V_{DC}	
Tuning Range		±0.4			ppm	At the time of shipment, sufficient for ≥ 15-years drift, all causes
Tuning Slope			Positive			
Input Impedance		>100			kΩ	
Linearity				<10	%	
SSB Phase Noise						
SSB Phase Noise, Maximum, BW = 1Hz (under static conditions)				-120	dBc/Hz	@ 10Hz Offset
				-135		@ 100Hz Offset
				-145		@ 1kHz Offset
				-150		@ 10kHz Offset
				-150		@ 100kHz Offset

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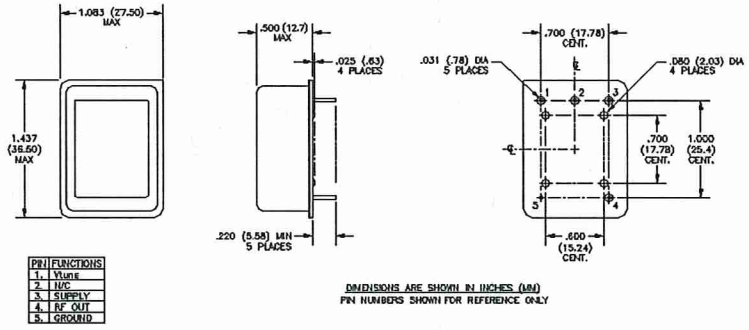
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Supply Voltage & Power Consumption						
Supply Voltage	V_{CC}	4.75	+5.0	5.25	V_{DC}	
Warm-up Current				600	*mA*	
Steady State Current			220		*mA*	@ +25°C
Additional Specifications						
Warm-up Time				8	Minutes	From power-on @ +25°C to within ±10ppb of the frequency @ 1-hour

Physical & Environmental:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-10		+70	°C	
Storage Temperature	STR	-50		+90	°C	
Package	Reference Drawing					
ESD	Human Body Model per JESD22-A114E, Meets or Exceeds 2000 Volts, Class 1C					
	Machine Model per JESD22-A115A, Meets or Exceeds 200 Volts, Class M2					
Moisture Sensitivity Level	MSL = 1					
Shock (survival)	Per IEC 68-2-27: Total of 18 shocks 50g, 1-*msec*, ½ sine, 3-shocks in each direction of 3 orthogonal axes					
Vibration (survival)	Per IEC 68-2-6: 10 cycles in each of 3 orthogonal axes Displacement = 0.75mm-peak, 10Hz to 55Hz Acceleration = 10g-pak, 55Hz to 500Hz					
RoHS	Full RoHS Compliance					

Mechanical and Pinout:



Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
01/25/13	2	BRM	Added ESD and MSL specifications.
08/13/12	1	BRM	Assigned a model number.
08/02/12	-	BRM	Original Draft.