

Specification for a Sine Output Thru-Hole OCXO

MtronPTI P/N: XO5123-070R

Electrical Specifications:

Unless otherwise specified; $T = +25^{\circ}\text{C}$, $V_S = +12V_{DC}$, $V_C = +2.5V_{DC}$, Load= 50 Ω

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_0		10.000000		MHz	
Initial Frequency		-0.1		+0.1	ppm	At time of shipment
Frequency Stabilities						
vs. Temperature Range		-2.0		+2.0	ppb	-30°C to +70°C
vs. Supply Voltage		-3.0		+3.0	ppb	±5% change in voltage
vs. Load		-3.0		+3.0	ppb	±5% change in load
Aging per Year		-30		+30	ppb	After 30-days Power On
Aging per Day		-0.1		+0.1	ppb	After 30-days Power On
Short Term Stability (Allan deviation)			5		$\times 10^{-12}$	Per Second.
RF Output						
Output Type		Sinewave				
Output Load			50		Ω	±5%
Level	V_{OH}		+10		dBm	In a 50 Ω load
Startup Time				500	ms	
Frequency Adjustment						
Method		External Voltage Tuned				
Tuning Slope		Positive				
Tuning Voltage	V_{TUNE}	0	+2.5	+5	V_{DC}	
Tuning Range			±1.5		ppm	
Input Impedance		10			k Ω	
Linearity				10	%	
Other Parameters						
SSB Phase Noise (under static conditions)				-105	dBc/Hz	@ 1Hz Offset
				-130		@ 10Hz Offset
				-153		@ 100Hz Offset
				-158		@ 1kHz Offset
				-165		@ 10kHz Offset
				-165		@ 100kHz Offset
Warm-up Time	$\Delta F/F$			3	Minutes	To be within ±20ppb, @ 25°C, referenced to the frequency after 24-hour power on
Harmonics				-30	dBc	
Spurious				-70	dBc	
Supply Voltage & Power Consumption						
Supply Voltage	V_S	11.4	12.0	12.6	V_{DC}	
Power Consumption			2.1		Watts	Steady state @ 25°C, in still air
				5	Watts	@ turn on Over operating temperature range

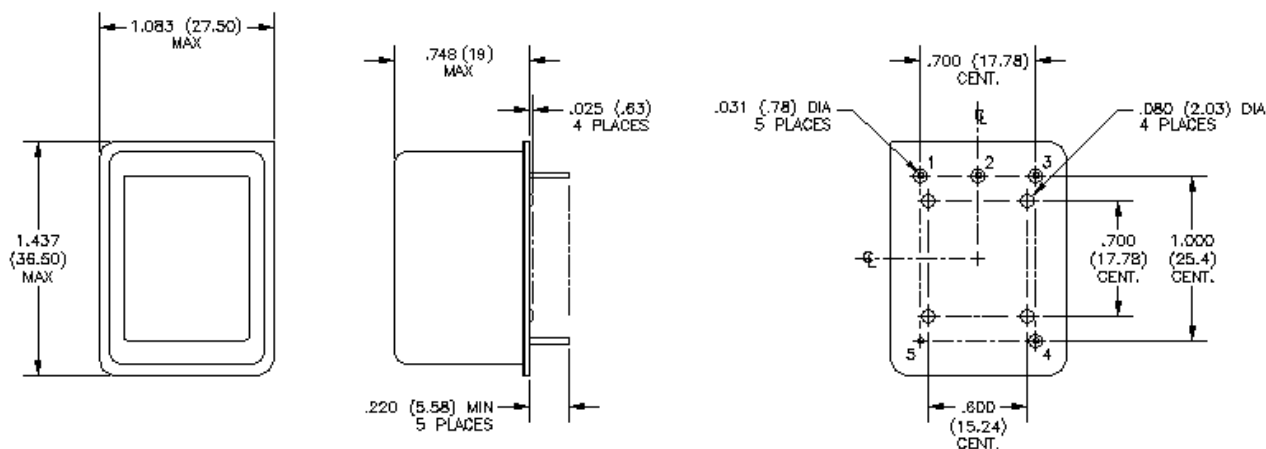
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Environmental Conditions:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-30		+70	°C	
Storage Temperature	STR	-40		+90	°C	
Shock (survival)	75g /3ms – ½ sine / EC 68-2-27					
Vibration (survival)	5g; 10 – 500 Hz / IEC 68-2-06					
Humidity	0% to 98%					
Solderability	Per EIAJ-STD-002					
RoHS	Full RoHS Compliance					

Mechanical, Marking and Pinout Information:



DIMENSIONS ARE SHOWN IN INCHES (MM)
PIN NUMBERS SHOWN FOR REFERENCE ONLY

Pin	Function
1	V _{TUNE}
2	NC
3	Supply Voltage
4	RF _{OUT}
5	Ground

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
03-27-19	C	BRR	Stability vs. Temp updated to ±2ppb for OTR -30 to +70 °C
03-18-19	B	BRR	Operating temp (max) changed to 70
03-15-19	A	BRR	Original Release