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

Specification for a Sine Output OCXO
MtronPTI P/N: XO5089-Series

Frequency offering: 10MHz to 40MHz

High Stability, Low Aging and Ultra-Low Phase Noise

Custom features: low g-sens available

Applications: Test Equipment, Satcom, RADAR

Electrical Specifications for Representative 10MHz OCXO
Unless otherwise specified; T= +25°C, V_S = +5V_{DC}, V_C = +2.5V_{DC}, Load= 50Ω

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		10.000000		MHz	
Initial Frequency		-100		+100	ppb	At time of shipment
Frequency Stabilities						
vs. Temperature Range		-10		+10	ppb	-20°C to +70°C
vs. Supply Voltage		-2.5		+2.5	ppb	±5% change in voltage
vs. Load		-2.5		+2.5	ppb	±5% change in load
Aging/Day		-0.5		+0.5	ppb	After 30-days Power On
Aging/Year		-100		+100	ppb	
Short Term Stability (Allan deviation)				1	x10^{-11}	Per Second.
RF Output						
Output Type			Sinewave			
Output Load			50		Ω	±5%
Level	V_{OH}		+10		dBm	In a 50Ω load
Frequency Adjustment						
Method			External Voltage Tuned			
Tuning Slope			Positive			
Tuning Voltage	V_{TUNE}	0		+5	V_{DC}	
Other Parameters						
Standard Phase Noise Option						
				-105	dBc/Hz	@ 1Hz Offset
				-137		@ 10Hz Offset
				-155		@ 100Hz Offset
				-162		@ 1kHz Offset
				-169		@ 10kHz Offset
				-169		@ 100kHz Offset
	Low Phase Noise Option					
				-112	dBc/Hz	@ 1Hz Offset
				-142		@ 10Hz Offset
				-155		@ 100Hz Offset
				-162		@ 1kHz Offset
				-170		@ 10kHz Offset
				-170		@ 100kHz Offset

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	Ultra-low phase noise option					
				-115	dBc/Hz	@ 1Hz Offset
				-143		@ 10Hz Offset
				-158		@ 100Hz Offset
				-165		@ 1kHz Offset
				-170		@ 10kHz Offset
				-172		@ 100kHz Offset
Warm-up Time	ΔF/F			5	Minutes	To be within ±100ppb, @ 25˚C, referenced to the frequency after 24-hour power on
Harmonics				-30	dBc	
Spurious				-80	dBc	
Vref			4.1		V	
Supply Voltage & Power Consumption						
Supply Voltage	V_S	4.75	5.0	5.25	V_{DC}	
Power Consumption				2.5	Watts	Steady state @ 25°C, in still air
				4.5	Watts	In still air @ turn on

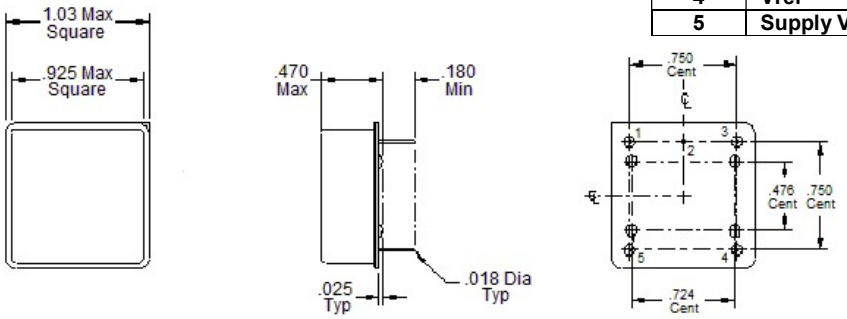
Environmental Conditions:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-20		+70	°C	
Storage Temperature	STR	-55		+85	°C	
Vibration (survival)	Per MIL-STD 202G, Method 204, Condition A					
Shock (survival)	Per MIL-STD 202G, Method 213, Condition C					
Solderability	Per EIAJ-STD-002					
RoHS	Full RoHS Compliance					

Mechanical, marking and pin out Information:

Thru-hole option:

Pin	Function
1	RF Output
2	Case Ground
3	Vtune
4	Vref
5	Supply Voltage



Pin Numbers Shown For Reference Only
All Dimensionsare in Inches

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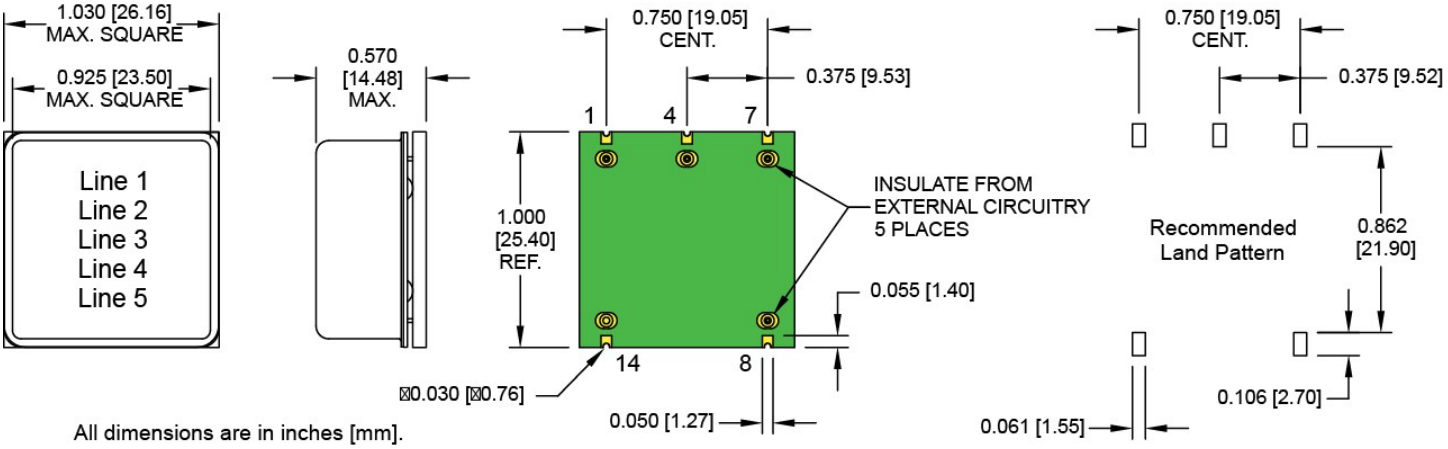
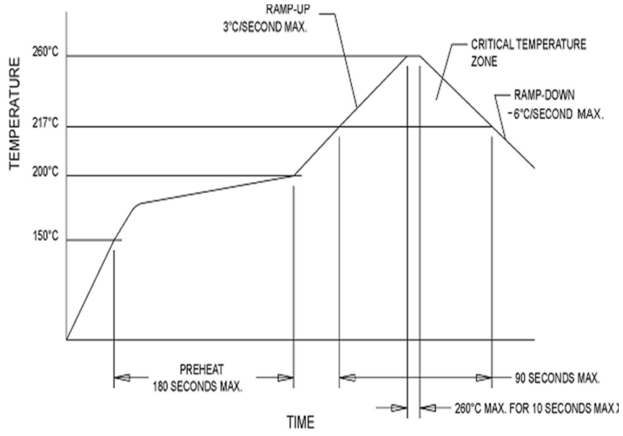
SMT Option:

Pin	Function
1	RF Output
4	Case Gnd
7	V_{Tune}
8	V ref
19	Supply Voltage



Part Marking	
Line 1	MtronPTI
Line 2	XO5089-0xxR
Line 3	10.000MHz
Line 4	Serial Number
Line 5	Date Code

Reflow Profile for SMT Version:



Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
05-05-16	A	DPD	Original Release.