

## Specification for a Sine Output OCXO

### MtronPTI P/N: XO5089-005sR

#### Electrical Specifications:

Unless otherwise specified; T = +25°C, V<sub>S</sub> = +5V<sub>DC</sub>, V<sub>C</sub> = +2.5V<sub>DC</sub>, Load = 50Ω

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F <sub>O</sub>		10.000000		MHz	
Initial Frequency		-100		+100	ppb	At time of shipment
<b>Frequency Stabilities</b>						
vs. Temperature Range		-10		+10	ppb	Over operating temp
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
90-Day Aging		-20		+20	ppb	
Aging/Year		-50		+50	ppb	
Short Term Stability (Allan deviation)				1	x10 <sup>-11</sup>	Per Second.
<b>RF Output</b>						
Output Type		Sinewave				
Output Load			50		Ω	±5%
Level			+10		dBm	In a 50Ω load
<b>Frequency Adjustment</b>						
Method		External Voltage Tuned				
Tuning Slope		Positive				
Tuning Range		+/- 1			ppm	
Tuning Voltage	V <sub>TUNE</sub>	0		+5	V <sub>DC</sub>	
Modulation Bandwidth		1			kHz	
<b>Other Parameters</b>						
<b>Phase Noise</b>						
				-107	dBc/Hz	@ 1Hz Offset
				-137		@ 10Hz Offset
				-155		@ 100Hz Offset
				-162		@ 1kHz Offset
				-170		@ 10kHz Offset
				-170		@ 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	
V <sub>ref</sub>			4.1		V	Max source current 1mA
<b>Supply Voltage &amp; Power Consumption</b>						
Supply Voltage	V <sub>S</sub>	4.75	5.0	5.25	V <sub>DC</sub>	
Power Consumption				2.5	Watts	Steady state @ 25°C, in still air
				4.5	Watts	In still air @ turn on

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### Environmental Conditions:

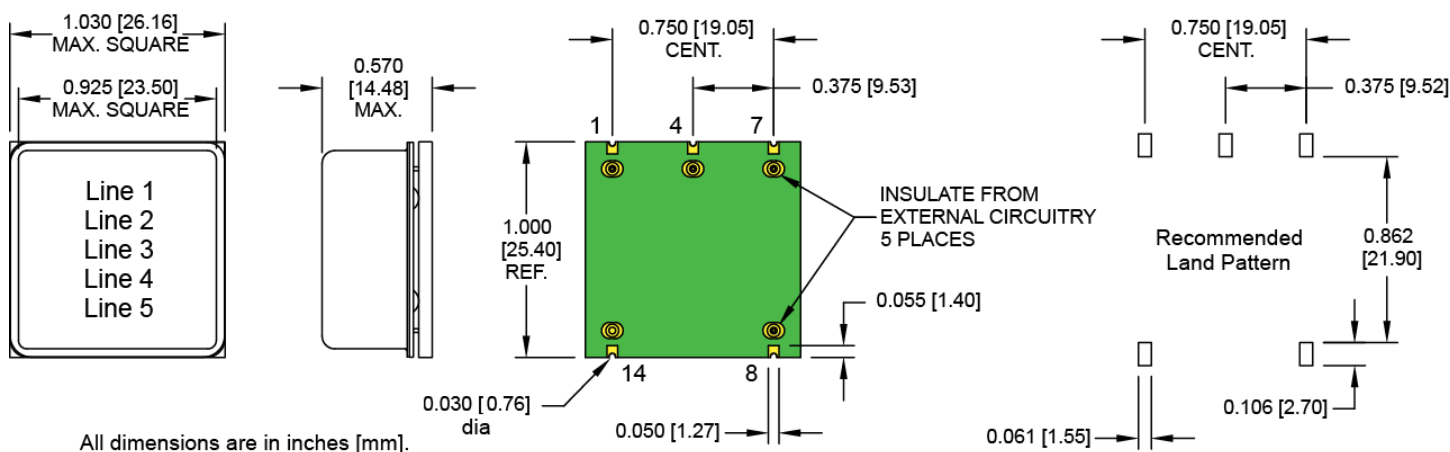
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	
Storage Temperature	STR	-55		+85	°C	
Vibration (survival)	Per MIL-STD 202G, Method 204, Condition A					
Shock (survival)	Per MIL-STD 202G, Method 213, Condition C					
Solderability	Per EIAJ-STD-002					
RoHS	Full RoHS Compliance					

### Mechanical, marking and pin out Information:

Part Marking	
Line 1	MtronPTI
Line 2	XO5089-005sR
Line 3	10.0000MHz
Line 4	Serial Number
Line 5	Date Code

Pad	Function
1	RF Output
4	Case Ground
7	V <sub>TUNE</sub>
8	V <sub>ref</sub>
14	Supply Voltage

Legend	
yy	Year
ww	Work Week



### Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
12-14-16	D	DPD	Aging/year spec updated +/- 50ppb, OT updated to -40C to +85C and 1Hz and 10Hz phase number updated to 107dBc/Hz and 137dBc/Hz respectively.
07-15-16	C	DPD	Tuning range added
06-29-16	B	DPD	Pin number typo corrected
06-09-16	A	MM	Original Release.