

## XO5089 Series Low Phase Noise OCXOs

Features	Applications
Frequency Range: 10 to 40MHz High Stability, Low Aging and Ultra- Low Phase Noise Low G and Low Spurious	Radar Satcom Test Equipment

### Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F <sub>0</sub>		10.000000		MHz	
Initial Frequency		-100		+100	ppb	At time of shipment

### Frequency Stabilities

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Stability	ΔF/F	-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 (After 30-days power on)		-0.5 -100		+0.5 +100	ppb ppb	Daily 1 year
Short Term Stability (Allan deviation)				1	x10 <sup>-11</sup>	Per second

### RF Output (100MHz)

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Output Type		Sinewave				
Output Level			+10		dBm	In a 50Ω load
Output Load			50		Ω	±5%

### Frequency Adjustment

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Adjustment Method		External Voltage				
Adjustment Voltage	V <sub>TUNE</sub>	0		+5	V	
Adjustment Slope		Positive				

## XO5089 Series Low Phase Noise OCXOs

### Phase Noise

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions	
Phase Noise (Under Static Conditions)				-105	dBc/Hz	1 Hz Offset	
				-137	dBc/Hz	10 Hz Offset	
				-155	dBc/Hz	100 Hz Offset	
				-162	dBc/Hz	1 kHz Offset	
				-169	dBc/Hz	10 kHz Offset	
				-169	dBc/Hz	100 kHz Offset	
	Low Phase Noise						
					-112	dBc/Hz	1 Hz Offset
					-142	dBc/Hz	10 Hz Offset
					-155	dBc/Hz	100 Hz Offset
					-162	dBc/Hz	1 kHz Offset
					-170	dBc/Hz	10 kHz Offset
					-170	dBc/Hz	100 kHz Offset
	Ultra-Low Phase Noise						
					-115	dBc/Hz	1 Hz Offset
					-143	dBc/Hz	10 Hz Offset
					-158	dBc/Hz	100 Hz Offset
					-165	dBc/Hz	1 kHz Offset
				-170	dBc/Hz	10 kHz Offset	
				-172	dBc/Hz	100 kHz Offset	
Harmonics				-30	dBc		
Spurious				-80	dBc		
Warm-up time				5	minutes	To be within $\pm 100$ ppb, @ 25 °C, referenced to the frequency after 24- hour power on	

### Temperature, Supply Voltage & Power Consumption

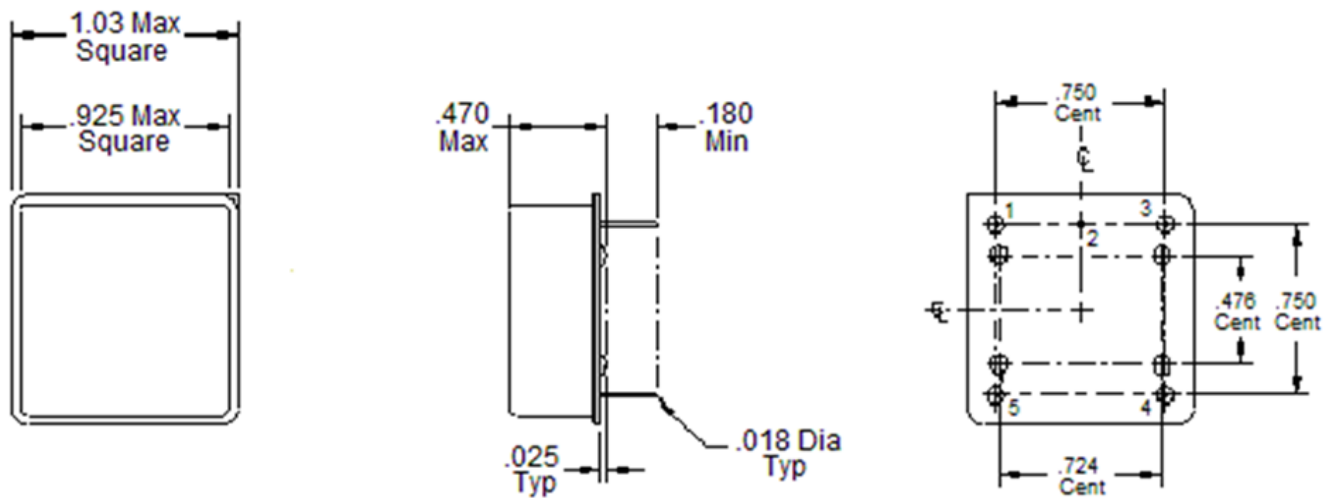
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-20		+70	°C	Full Specification Compliance
Storage Temperature	STR	-55		+85	°C	
Operating Voltage	$V_{CC}$	+4.75	+5.0	+5.25	V	
Power Consumption				2.5	W	Steady state @ 25°C, In Still Air
				4.5	W	@ Start-up

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### Environmental Conditions

Parameter	Conditions
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 and pin out information



Pin Numbers Shown For Reference Only  
All Dimensions are in Inches

Pad	Function
1	RF Output
2	Case Ground
3	V <sub>TUNE</sub>
4	V <sub>ref</sub>
5	Supply Voltage