

XO5503-100MHz e-Vibe[®] Compensated OCXO

Features	Applications
Frequency: 100MHz Vibration Compensated Low Phase Noise Low Aging	Radar Satcom Electronic Warfare Munitions

Electrical Specifications at 100MHz

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F ₀		100		MHz	

Frequency Stabilities

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Stability	ΔF/F	-500		+500	ppb	Over the operating temperature range
vs. Supply Voltage variation		-15		+15	ppb	±5% change in V
vs. Load Change		-100		+100	ppb	
Aging (After 30-days power on)		-250 -200		+250 +200	ppb ppb	1 st year Per year after 1 st year

RF Output

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Output Type		Sinewave				
Output Level		+5	+7	+9	dBm	Into a nominal 50Ω load
Output Load			50		Ω	±5%
Harmonics				-30	dBc	

Frequency Adjustment

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Adjustment Method		External Voltage				
Adjustment Voltage	V _{TUNE}	0		+5	V	
Adjustment Range			±2.5		ppm	

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Input Impedance		25		kΩ	
Adjustment Slope		Positive			

Phase Noise

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
SSB Phase Noise (Under Static Conditions)				-97	dBc/Hz	10 Hz Offset
				-127	dBc/Hz	100 Hz Offset
				-150	dBc/Hz	1 kHz Offset
				-162	dBc/Hz	10 kHz Offset
				-165	dBc/Hz	100 kHz Offset
SSB Phase Noise – With Random Vibration (operational, any axis)				-95	dBc/Hz	10 Hz Offset
				-123	dBc/Hz	100 Hz Offset
				-150	dBc/Hz	1 kHz Offset
				-152	dBc/Hz	2 kHz Offset
				-165	dBc/Hz	10 kHz Offset
				-170	dBc/Hz	100 kHz Offset

Random Vibration (operational)

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Power Spectral Density			0.012		g ² /Hz	10 Hz
			0.012			40 Hz
			0.020			52 Hz
			0.020			500 Hz
			0.00126			2000 Hz

Temperature, Supply Voltage & Power Consumption

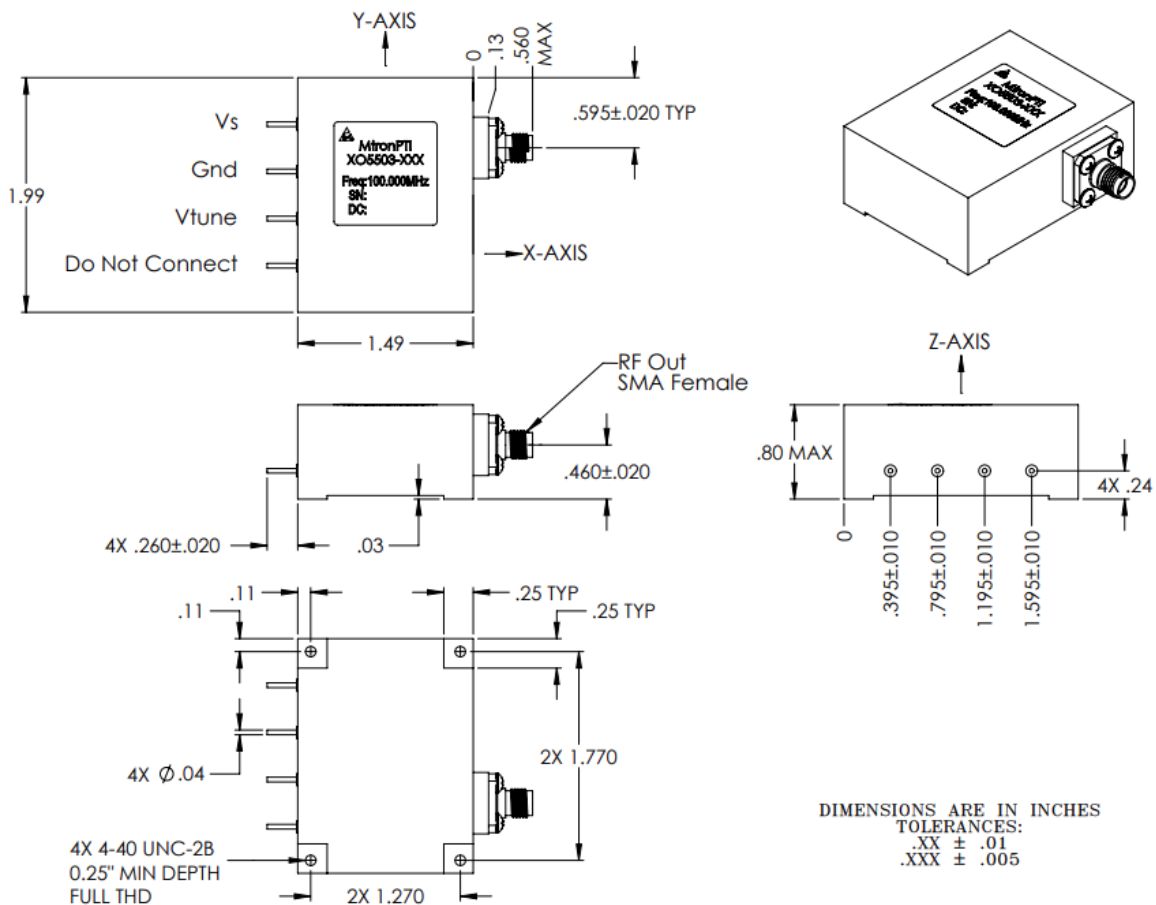
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	Full Specification Compliance
Operating Voltage	V _{CC}	+11.4	+12.0	+12.6	V	
Power Consumption				3	W	Steady state @ 25°C, In Still Air
				6	W	@ Start-up

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Marking information

Part Marking
Mtron
XO5503
100.000MHz
Serial Number
Date Code

Mechanical Outline



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Phase Noise Performance

