

500 MHz Reference OCXO Module in Aluminum Case

Product Data Sheet

Features

- Extraordinary Low Phase Noise , 2 Options
- Internally Locked to Precision 10 MHz OCXO with Excellent Temperature Stability and Aging
- External Reference is Optional
- 500 MHz

Applications

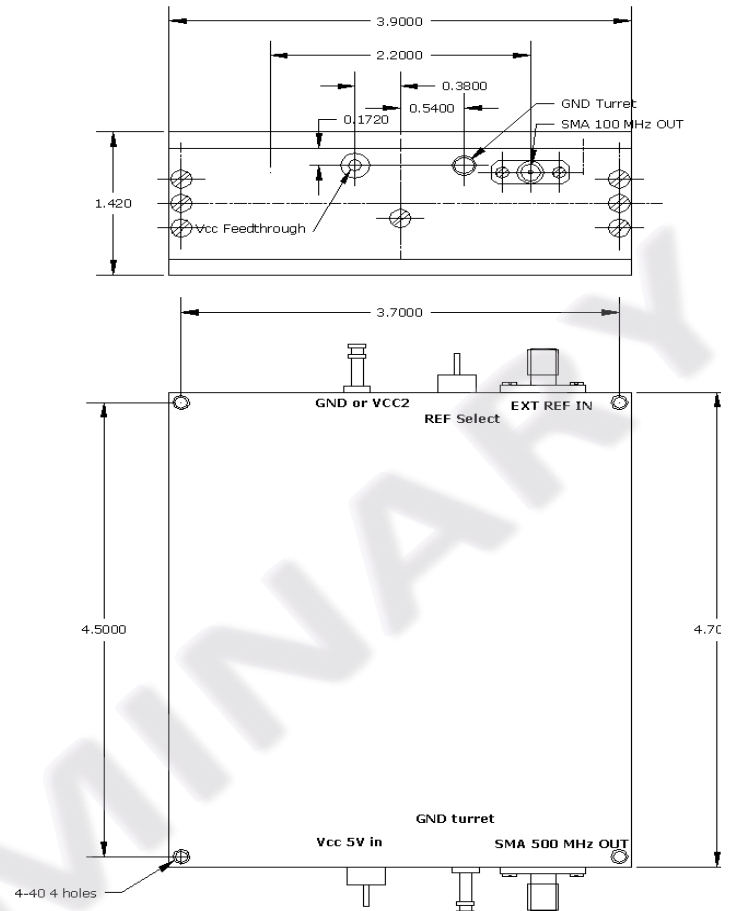
- Radar
- Advanced Computing
- Instrumentation
- COTS/Dual use

Inputs

- External Reference – SMA Female
- Vcc - Feedthrough
- Reference select - Feedthrough

Output

RF OUT - SMA Female



Mechanical Dimensions, inches



Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Maximum Ratings							
Input Break Down Voltage	Vcc		-0.5		6.5	V	
Storage temper.	Ts		-40		85	°C	
Electrical (1)							
Frequency	F			500		MHz	
Frequency stability	$\Delta F/F$	vs. Temp.		± 5		ppb	See table below
		vs. Supply			1	ppb/5% change	
		Vs. load			1	ppb/5% change	
Aging		per day per first year 10 years		5E-10 5E-8	0.3	ppm	After 30 days of continuous operation
Allan Deviation		.01s to 1s		5E-13			
SSB Phase Noise	$\mathcal{L}(\Delta f)$	10 Hz		-97		dBc/Hz	Grade E2
		100 Hz		-127			
		1 KHz		-153			
		10 KHz		-168			
		100 KHz		-171			
		1 MHz		-171			
		10 MHz		-174			
		100 MHz		-176			
		10 Hz		-100			Grade E4
		100 Hz		-130			
		1 KHz		-156			
		10 KHz		-170			
		100 KHz		-174			
		1 MHz		-174			
Retrace		After 30 minutes		± 10		ppb	
G-sensitivity		worst direction			± 0.5	ppb/G	
Input Voltage	Vcc		4.9	5.0	5.5	V	
Mechanical Frequency Adjustment				± 0.4		ppm	Location TBD
Power consumption	P	steady state, 25°C start-up		6.0 18	7.5 20	W	Still air
Spectral Purity		Output power		15		dBm	Non-supply related
		Subharmonics			-60	dBc	
		Spurious Harmonics		-35	-30	dBc	
Load	50 Ohm (Internally AC-coupled)						
Warm-up time	τ	to 0.1ppm accuracy		5	8	minutes	During warm-up the output signal can be scrambled, jittery, and not usable altogether
Output Waveform	Sine-wave						
External Reference		Sine Wave	+7			dBm	
Reference select		Floating Logic "0"		Internal External			

All parameters for internal reference

Environmental and Mechanical

Operating temp. range	0 to 70°C Standard, Other options TBD
Mechanical Shock	Per MIL-STD-202, 30G, 11ms survival
Thermal Shock	Per MIL-STD_883, Method 1011, Condition A survival
Vibration	Per MIL-STD-202, 5G to 2000 Hz survival
Soldering Conditions	260°C for 10s Max

E2 Grade Phase Noise Example

