

Phase Locked Oscillator, 3.2 GHz, +13 dBm, 10 MHz Externally Referenced

Description:

Model SOP-32210013-SF-E8 is a phase locked oscillator a high performance DRVCO (Dielectric Resonator Voltage Controlled Oscillator) technology to generate a clean and high-quality microwave signal. The oscillator is designed and fabricated to be phase locked to the high quality 10 MHz external reference oscillator so that the superior phase noise performance can be achieved. The oscillator delivers a typical output power of +13 dBm and has nominal harmonic and spurious levels of -25 dBc and -75 dBc, respectively. The oscillator has a built-in voltage regulator to further improve the signal quality and prevent possible damage due to the over voltage operation. The oscillator is hermetically sealed to offer the maximum environmental performance.



Features:

- High Output Power
- Low Phase Noise
- Low Harmonic Components

Applications:

- Radar Systems
- Communication Links
- Transmitters and Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		3.2 GHz	
Output Power		+13 dBm	
Phase Noise*	Reference Source + 20 Log (N) + 3 dB		
	-95 dBc/Hz @10 kHz		
	-105 dBc/Hz @100 kHz		
	-135 dBc/Hz @1 MHz		
External Reference Frequency		10 MHz	
External Reference Input Power	-3 dBm	+0 dBm	+3 dBm
Sub-Harmonics			-60 dBc
Harmonics		-25 dBc	-20 dBc
Spurious		-75 dBc	-70 dBc
Phase Locked Indicator (LOCK)		TTL "High"	
DC Voltage		+12 V _{DC}	+15 V _{DC}
DC Supply Current		200 mA	
Frequency Stability (Externally Referenced)*	Same as reference		
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+70 °C

*For externally referenced phase locked oscillators, phase noise is reference source dependent, in general. Phase Noise = Reference Source + 20 Log (N) + 3 dB.

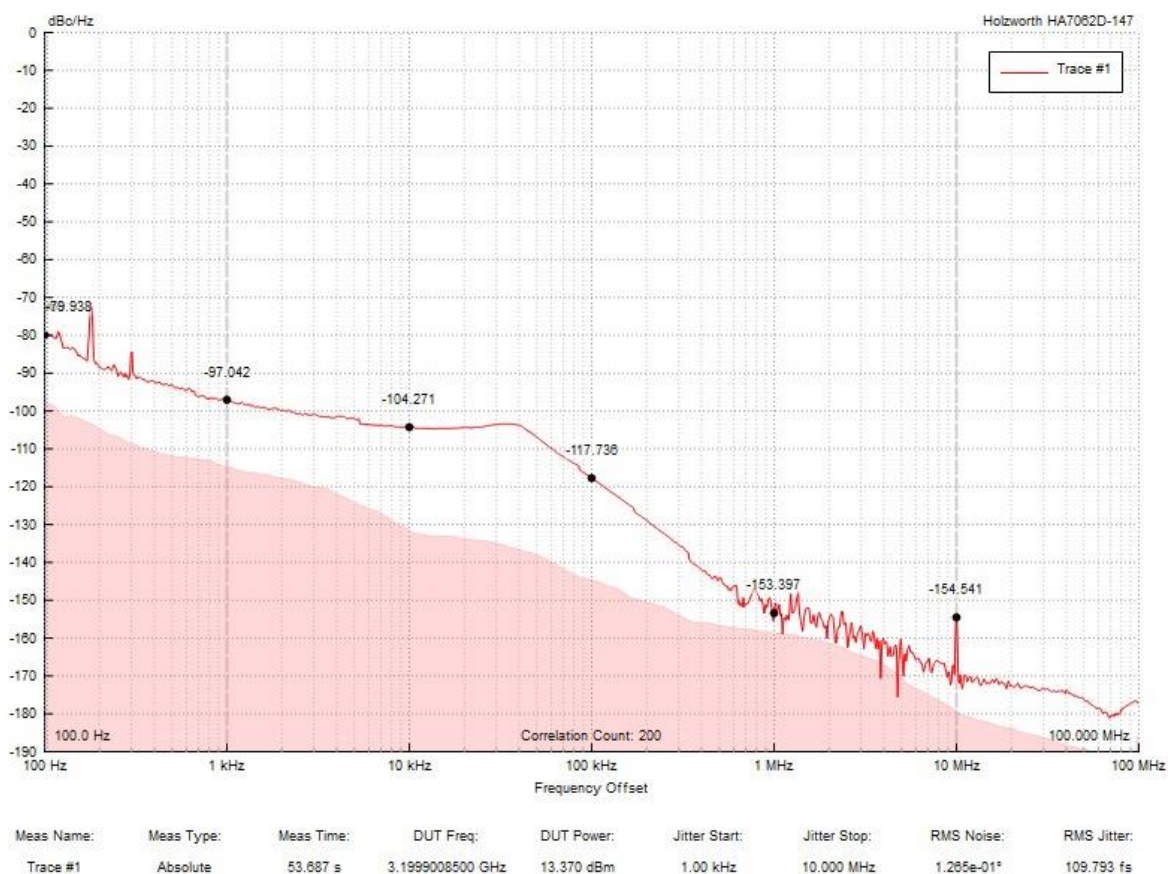


Phase Locked Oscillator, 3.2 GHz, +13 dBm, 10 MHz Externally Referenced

Mechanical Specifications:

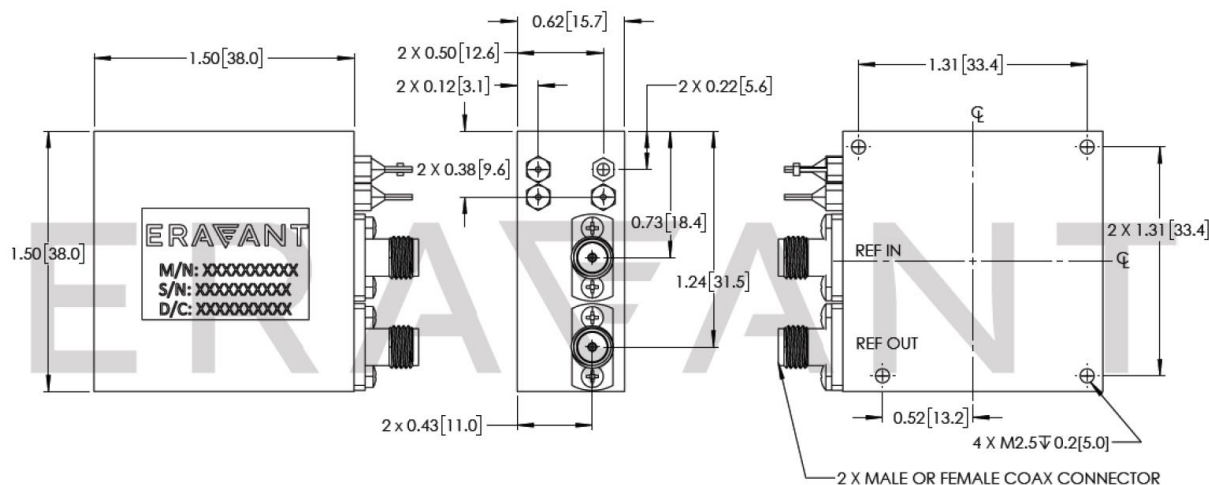
Item	Specification
RF Output	SMA(F) Connector
REF Input	SMA(F) Connector
DC Bias Port (V_{CC})	Feedthru Pin
Phase Lock Indicator Port (LT)	Feedthru Pin
Ground Terminal	Ground Lug
Case Material	Aluminum
Finish	Nickel Plated and Bare Aluminum
Package	Hermetically Sealed
Weight	4.0 Oz
Size	1.50" (L) X 1.50" (W) X 0.62" (H)
Outline	OP-EC-SM4

Measured Phase Noise:



Phase Locked Oscillator, 3.2 GHz, +13 dBm, 10 MHz Externally Referenced

Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- The phase noise data shown here is tested with Wenzel model 501-27501-32.
- All testing was performed under +25 °C case temperature.
- Eravant reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model number.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed **+70 °C**. Use additional heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**