

Phase Locked Oscillator, 18.8 GHz, +13 dBm, 10 MHz Internally Referenced

Description:

Model SOP-19310013-SF-IB is a phase locked oscillator based on a high performance DRVCO (Dielectric Resonator Voltage Controlled Oscillator) technology to generate a clean and high-quality microwave signal. The oscillator has a built-in 100 MHz internal reference crystal oscillator. The oscillator is designed and fabricated to be phase locked to the internal reference oscillator. The oscillator delivers a typical output power of +10 dBm and has a 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		18.8 GHz	
Output Power		+13 dBm	
Phase Noise	-85 dBc/Hz @10 kHz		
	-95 dBc/Hz @100 kHz		
	-125 dBc/Hz @1 MHz		
Internal Reference Frequency		10 MHz	
Internal 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"		
Phase Error Voltage (V_T)	0 to + 10 Vdc		
DC Voltage		+12 V _{DC}	+15 V _{DC}
DC Supply Current		500 mA	
Frequency Stability		±5 ppm	
Specification Temperature		+25 °C	
Operating Temperature	-20 °C		+85 °C

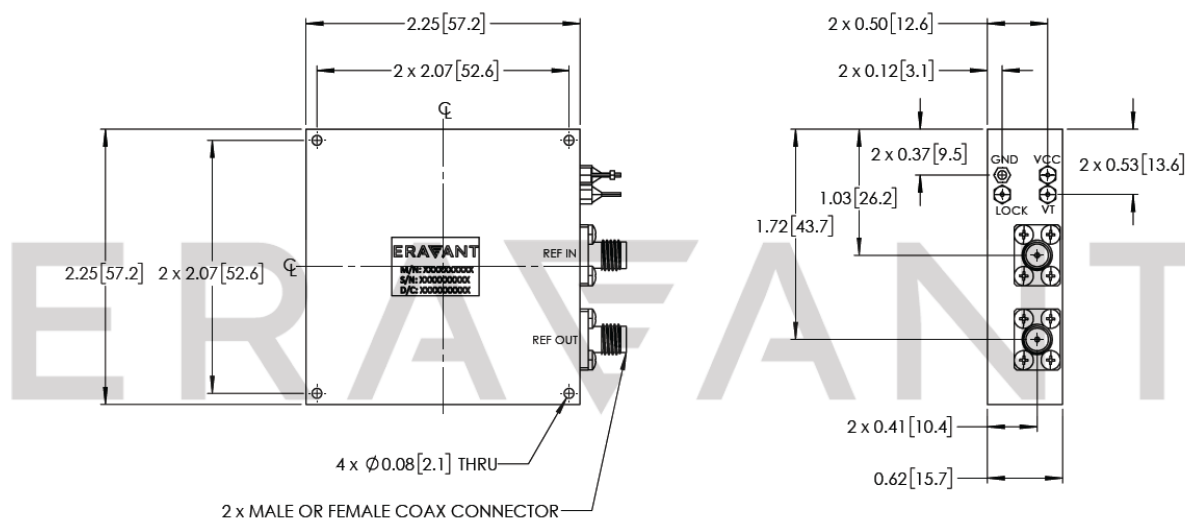


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Mechanical Specifications:

Item	Specification
RF Output	SMA(F) Connector
REF Input	SMA(F) Connector
DC Bias Port (V_{CC})	Feedthru Pin
Phase Lock Indicator Port (LD)	Feedthru Pin
Phase Error Voltage (V_I)	Feedthru Pin
Ground Terminal	Ground Lug
Case Material	Aluminum
Finish	Nickel Plated and Bare Aluminum
Package	Hermetically Sealed
Weight	4.0 Oz
Size	2.25" (L) X 2.25" (W) X 1.26" (H)
Outline	OP-EC-SM3

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



Note:

- SAGE Millimeter, Inc. 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 **+50 °C**. Use additional heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

