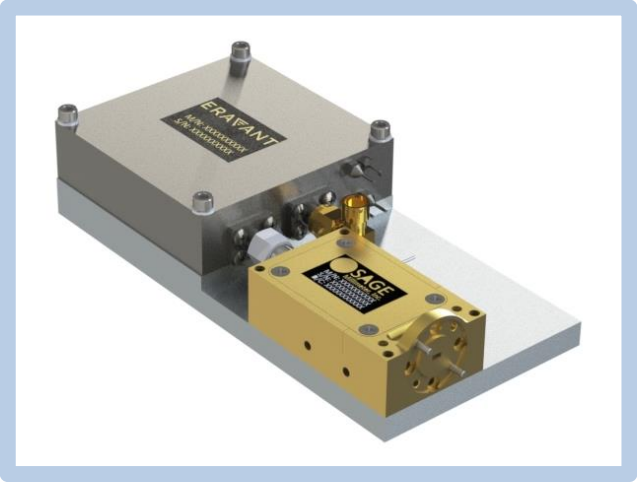
SOP-96310110-10-E1

Advanced

W-Band Phase Locked Oscillator, 96 GHz, +10 dBm Power

Description:



Model SOP-96310110-10-E1 is a phase locked oscillator with a typical output frequency of 96 GHz and a nominal output power of +10 dBm. The oscillator contains a high performance DRVCO (Dielectric Resonator Voltage Controlled Oscillator), an active multiplier, and amplifier to generate a clean and high-quality microwave signals. The PLO requires external reference at 100 MHz with 0 dBm nominal power. The phase noise of the oscillator is dependent on the quality of the reference source. The oscillator has low harmonic and spurious levels of -20 dBc and -60 dBc respectively. The oscillator has a built-in voltage regulator to further improve the signal quality and provide the protection of over voltage operation.

Features:

- High Output Power
- Low Phase Noise
- Low Harmonic Components
- External Referenced with Internal Backup

Applications:

- Radar Systems
- Communication Links
- Transmitters and Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		96.0 GHz	
Output Power		+10 dBm	
Phase Noise*		Reference + 20 Log (N) + 3 dB	
Harmonic		-20 dBc	
Spurious		-60 dBc	
External Reference Frequency		100 MHz	
External Reference Input Power	-3 dBm	0 dBm	+3 dBm
Phase Locked Indicator		TTL “High”	
Phase Error Voltage		0 to + 10 Vdc	
Bias (PLO)		+12 V_{DC} / 250 mA	+15 V_{DC}
Bias (Frequency Multiplier)	+6 V_{DC}	+8 V_{DC} / 400 mA	+15 V_{DC}
Frequency Stability		Same as reference	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

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

www.eravant.com | 501 Amapola Avenue, Torrance, CA 90501
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: support@eravant.com

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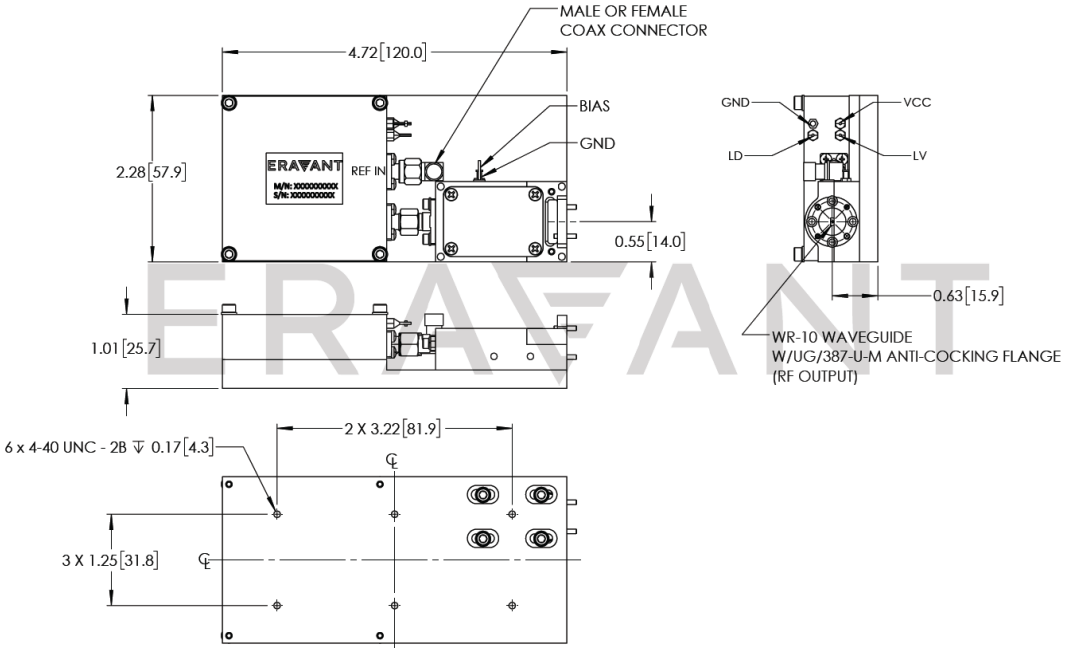
Mechanical Specifications:

Item	Specification
RF Output	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
REF Input	SMA(F) Connector
DC Bias Ports	Feedthru Pin
Phase Lock Indicator Port (LD)	Feedthru Pin
Case Material	Aluminum
Base Plate Material	Aluminum
Finish	Nickel Plated and Gold Plated
Size	2.28” (W) X 4.72” (L) X 1.01” (H)
Outline	OP-EW-A

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.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed **+50 ˚C**. Use additional heatsink or fan if necessary.