

## K-Band Phase Locked Oscillator, 24.5 GHz, Internally Referenced

### Description:

**Model SOP-25310113-KF-I1** is a 24.5 GHz phase locked oscillator that utilizes state-of-the-art planar circuits, a high performance three terminal devices and dielectric resonator technology to generate high-quality microwave signal. The signal is phase locked to a high quality, 100 MHz internally referenced crystal oscillator to deliver superior phase noise performance. The PLO delivers a typical output power of +13 dBm and has a nominal harmonic of -25 dBc and spurious of -75 dBc with a phase noise of -104 dBc/Hz at 10 KHz offset. 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

### Applications:

- Radar Systems
- Communication Links
- Transmitters and Receivers

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		24.5 GHz	
Output Power		+13 dBm	
Phase Noise (Internally Referenced) @ 10 kHz		-104 dBc/Hz	
Harmonic		-25 dBc	
Spurious		-75 dBc	
Phase Lock Indicator (Lock)	TTL "High"		
DC Voltage Supply		+12 Vdc	
Frequency Stability (Internally Referenced)		±5 ppm	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

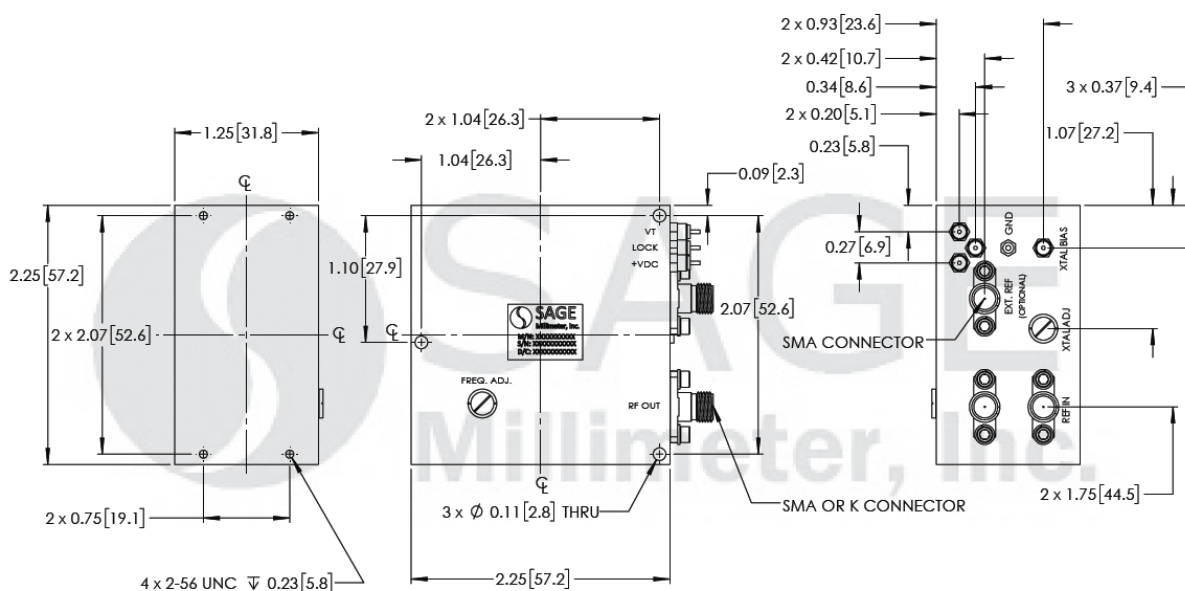
### Mechanical Specifications:

Item	Specification
RF Output	K (F) Connector
REF Output	SMA (F) Connector
DC Bias, Lock and VT Ports	Solder Pins
Case Material	Aluminum
Finish	Nickel Plated
Weight	4 Oz (Excluding the Heatsink)
Size	2.25" (W) 2.25" (L) X 1.25" (H)
Outline	OP-DC-E3



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**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 numbers.

**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,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

