

K-Band Phase Locked Oscillator, 24.5 GHz, Internally and Externally Referenced

Description:

Model SOP-25305110-KF-EI is a phase locked oscillator with a typical output frequency of 24.5 GHz and a nominal output power of +10 dBm. The PLO is externally referenced with internal reference backup. The required external reference is 50 MHz with 0 dBm nominal power. The phase noise of the oscillator is dependent on the quality of the reference source. When the oscillator operates with the internal reference, the phase noise is -100 dBc/Hz at 10 kHz offset. The oscillator has a maximum harmonic of -25 dBc and spurious of -75 dBc, respectively. The oscillator has a built-in voltage regulator to further improve the signal quality and provide over voltage protection. The normal operating state of the oscillator is external referenced.



Features:

- High Output Power
- Low Phase Noise
- Low Harmonic Components
- Internal Reference Backups

Applications:

- Radar Systems
- Communication Links
- Transmitters and Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		24.5 GHz	
Output Power		+10 dBm	
Phase Noise (Internally Referenced) @ 10 kHz		-100 dBc/Hz	
Phase Noise (Externally Referenced)	Reference + 20 Log (N) + 3 dB		
Harmonics		-25 dBc	
Subharmonics		-10 dBc	
Spurious		-75 dBc	
External Reference Frequency		50 MHz	
External Reference Input Power		0 dBm	+3 dBm
Phase Locked Indicator		TTL "High"	
DC Voltage Supply		+12 V _{DC}	
DC Current		400 mA	
Frequency Stability (Externally Referenced)	Same as reference		
Frequency Stability (Internally Referenced)		±5 ppm	
Power Stability		±0.5 dB	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

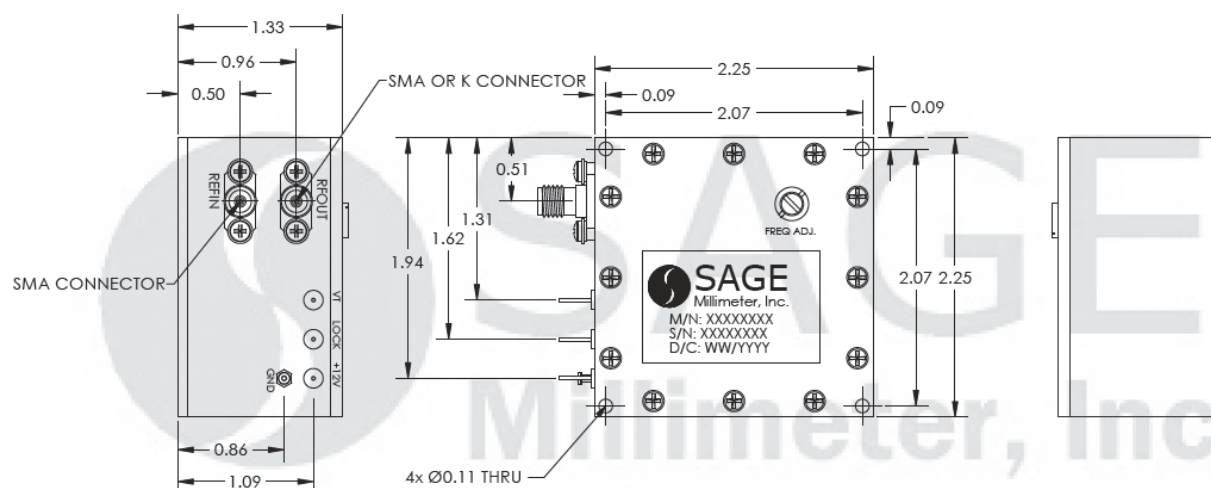


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Mechanical Specifications:

Item	Specification
Output	K(F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Nickel Plated
Weight	4 Oz (Excluding the Heatsink)
Size	2.25" (W) 2.25" (L) X 1.33" (H)
Outline	OP-E6-P1

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



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.
- **Do not reverse bias the unit.**
- 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.**