



## E-Band Phase Locked Oscillator, 75 GHz, +17 dBm Power

### Description:

**Model SOP-75310117-12-B1** is a phase locked oscillator with a typical output frequency of 75 GHz and a nominal output power of +17 dBm. The PLO is externally referenced with internal reference backup. The required external reference is 100 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 -70 dBc/Hz at 1 kHz offset. The oscillator has a minimum harmonic suppression of -20 dBc and spurious of -75 dBc.



### 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		75 GHz	
Output Power		+17 dBm	
Phase Noise (Internally Referenced) @ 1 kHz		-70 dBc/Hz	
Phase Noise (Internally Referenced) @ 10 kHz		-75 dBc/Hz	
Phase Noise (Externally Referenced)	Reference + 20 Log (N) + 3 dB		
Harmonic			-20 dBc
Spurious			-75 dBc
External Reference Frequency		100 MHz	
External Reference Input Power		+0 dBm	+3 dBm
DC Voltage Supply	+12 V <sub>DC</sub>		+15 V <sub>DC</sub>
DC Current		1,100 mA	
Frequency Stability (Externally Referenced)	Same as reference		
Frequency Stability (Internally Referenced)		±5 ppm	
Power Stability		±1 dB	
Operating Temperature	0°C		+50°C

### Mechanical Specifications:

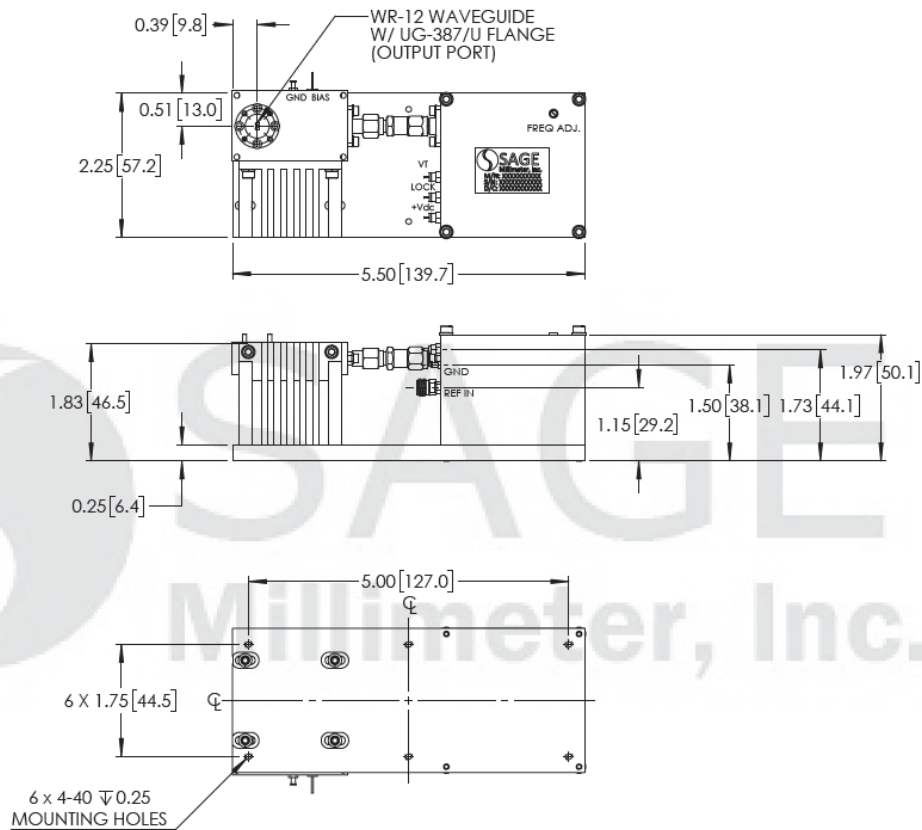
Item	Specification
Output	WR-12 Waveguide with UG-387/U Flange
Bias	Solder Pin
Size	2.25" (W) 5.50" (L) X 1.97" (H)
Case Material	Aluminum
Weight	9.5 Oz
Outline	OP-BE-S1





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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 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.

