## SOW-94312316-10-S1

## W-Band Voltage Tuned Oscillator, 88 to 100 GHz, +16 dBm

SOW-94312316-10-S1 is an W-band, voltage tuned oscillator with a frequency tuning range of 88 to 100 GHz. The oscillator takes a DC bias of +8 V<sub>DC</sub>/300 mA and delivers +16 dBm output power with low phase noise and harmonic emissions. The tuning voltage range is from +4 to +7 V<sub>DC</sub>. The tuning port is equipped with a SMA female connector. The RF output is a WR-10 Uni-Guide™ Waveguide with a UG-387/U anti-cocking flange.

## **Electrical Specifications:**

Parameter	Minimum	Typical	Maximum
Frequency Range	88 GHz		100 GHz
Power Output		+16 dBm	
Electrical Tuning Range		12 GHz	
Output Return Loss		10 dB	
Bias Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
Bias Current		300 mA	
Tuning Voltage Range	+4 V <sub>DC</sub>		+7 V <sub>DC</sub>
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

## **Mechanical Specifications:**

Item	Specification		
RF Port	WR-10 Uni-Guide™ Waveguide with UG-387/U Anti- Cocking Flange		
Tuning Port	SMA (F)		
Bias Port	Solder Pins		
Case Material	Aluminum		
Finish	Gold Plated		
Weight	1.6 Oz G M LL METERWA		
Size	1.20" (W) x 1.58" (L) x 0.38" (H)		
Outline	BU-SW-2CW-A		

## ECCN

3A001.b.4.e.3

### **FEATURES**

- Broad Tuning Bandwidth
- Flat Output Power

## **APPLICATIONS**

- Test Sources •
- **Signal Generations**
- Lab Test Setups •

## SUPPLEMENTAL DETAILS







## SOW-94312316-10-S1

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**Output Power vs. Frequency** 



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



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### NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- The VCO employs Eravant's trademarked and patent pending technology, the **Uni-Guide™**, as its waveguide interface. The orientation of the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be **SOW-94312316-10H-S1** instead of the default **SOW-94312316-10-S1** which indicates vertical orientation output.
- Eravant reserves the right to change the information presented without notice.

### CAUTION:

- The device is static sensitive. Always follow ESD rules when working with the device.
- Reversing polarity will destroy the device.
- The VCO bias voltage should never exceed +16.0 Volts.
- The case temperature of the device should never exceed +50 °C. Use an additional heatsink or fan if necessary.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm). Torque wrench model <u>SCH-06004-S1</u> is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model <u>SCH-08008-S1</u> is highly recommended

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