SBL-2242741585-0303-E1-WPC

WR-03 Low Noise Amplifier, 220 to 270 GHz, 15 dB Gain, 8.5 dB NF

SBL-2242741585-0303-E1-WPC is a WR-03 low noise amplifier with a typical small signal gain of 15 dB and a nominal noise figure of 8.5 dB across the frequency range of 220 to 270 GHz. The DC power requirement for the amplifier is +8 V_{DC}/50 mA. The input and output port configuration offers an inline structure with WR- 03 waveguides and UG-387/U-M anti-cocking flanges.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	220 GHz		270 GHz
Gain		15 dB	
Noise Figure		8.5 dB	
P_{1dB}		-5 dBm	
P_{in}			10 dBm
Input Return Loss		5 dB	
Output Return Loss		5 dB	
DC Voltage		+8 V_{DC}	+12 V_{DC}
DC Supply Current		50 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
Input	WR-03 Waveguide with UG-387/U-M Anti-Cocking Flange
Output	WR-03 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.40” (L) X 1.00” (W) X 0.75” (H)
Outline	BG-S03-2-A

ECCN

3A001.b.4

FEATURES

- State-of-the-Art Noise Figure
- Low Power Consumption

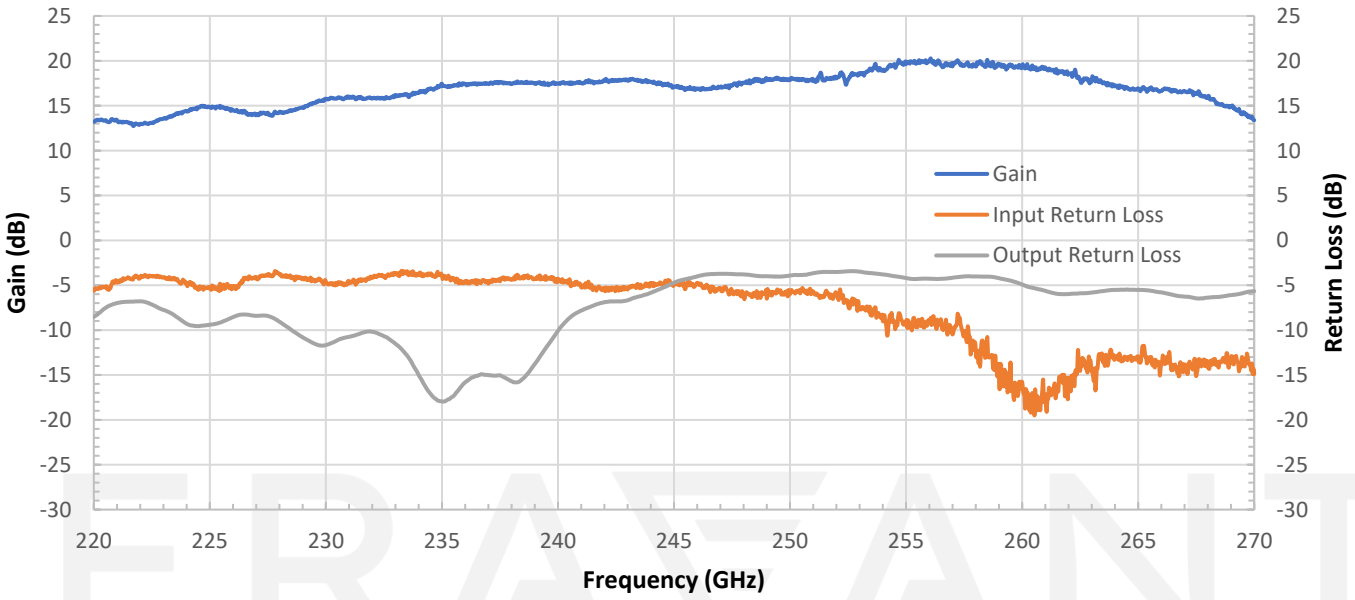
APPLICATIONS

- Passive Imaging
- 6G Systems

SUPPLEMENTAL DETAILS

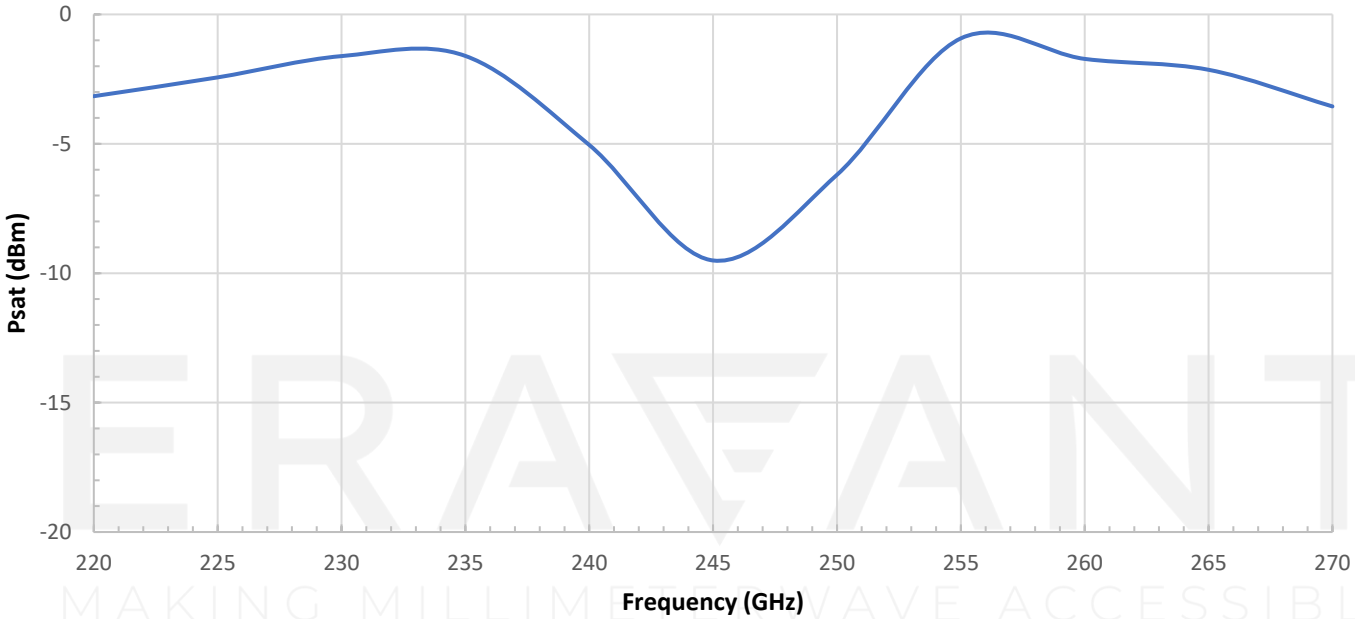
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/40 mA

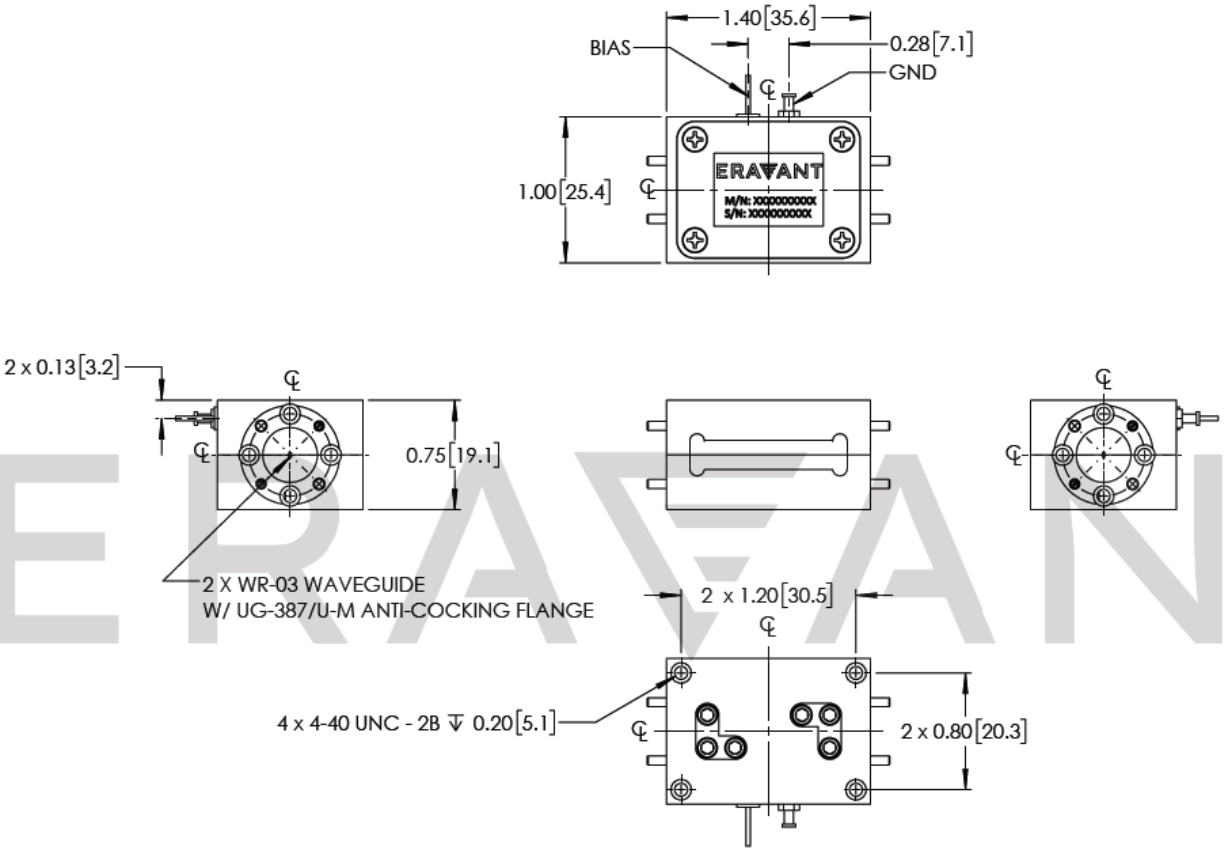


Psat vs. Frequency

Bias: +8 V_{DC}/40 mA; RFsat: 45 mA



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



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.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the device will cause performance degradation and possible device damage.
- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working on the device.
- The case temperature of the device shall never exceed 50 °C. Use proper heatsink or fan if necessary.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 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 SCH-08008-S1 is highly recommended