SBP-2734132530-2828-E1-HR

Advanced

26.5 to 41 GHz Power Amplifier, 25 dB Gain, +30 dBm P_{1dB}

Description:

Model SBP-2734132530-2828-E1-HR is a power amplifier with a typical small signal gain of 25 dB and a nominal P_{1dB} of +30 dBm across the frequency range of 26.5 to 41 GHz. The DC power requirement for the amplifier is +8 V_{DC}/2.4 A quiescent and +8 V_{DC}/4.0 A under RF drive. The mechanical configuration is an inline structure with WR-28 Uni-Guide™ waveguides. Other port configurations, such as K connectors and WR-28 waveguides for either the input or output port, are also available under different model numbers.

Features:

- Broadband Performance
- High Output Power
- Good Power and Gain Flatness

Applications:

- 5G Systems
- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		41 GHz
Gain		25 dB	
P_{1dB}		+30 dBm	
P_{sat}		+32 dBm	
P_{in}			+25 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage		+8 V_{DC}	+12 V_{DC}
DC Supply Current (Quiescent)		2.4 A	
DC Supply Current (Under RF Drive)		4.0 A	
Supply Voltage to Fan		+12 V_{DC}	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input	WR-28 Uni-Guide™ waveguide with UG-599/U Compatible Flange
Output	WR-28 Uni-Guide™ waveguide with UG-599/U Compatible Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.07 lb.
Size	3.15” (L) X 3.15” (W) X 3.83” (H)
Outline	BG-SA-2-BR-H95

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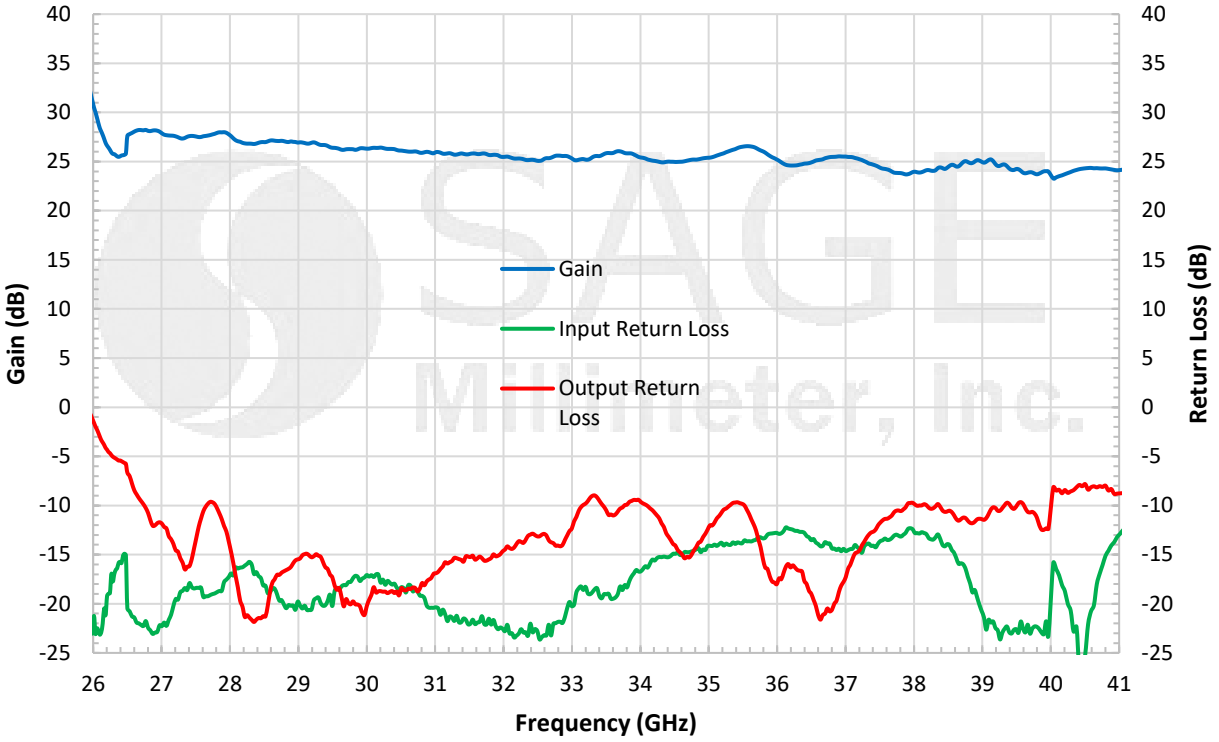
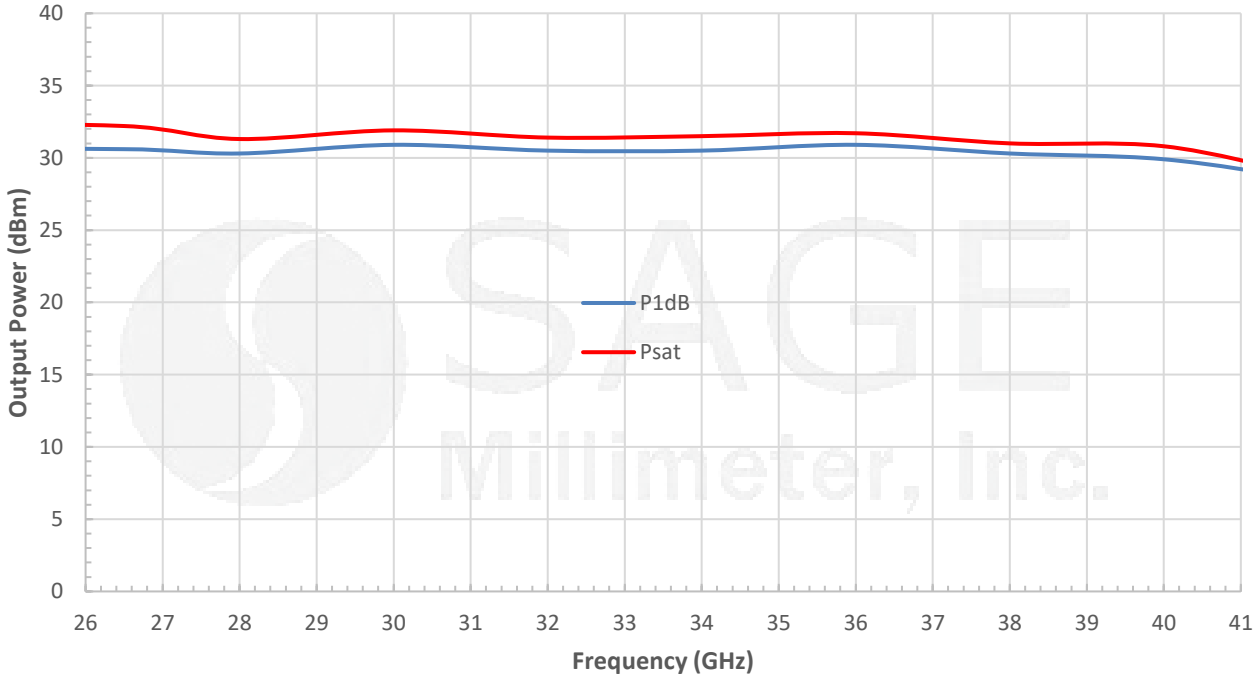
Typical Gain and Return Loss vs. Frequency

Bias = +8 V_{DC}/2,400 mA



Typical Output P_{1dB} and P_{sat} vs. Frequency

Bias = +8 V_{DC}/4,000 mA



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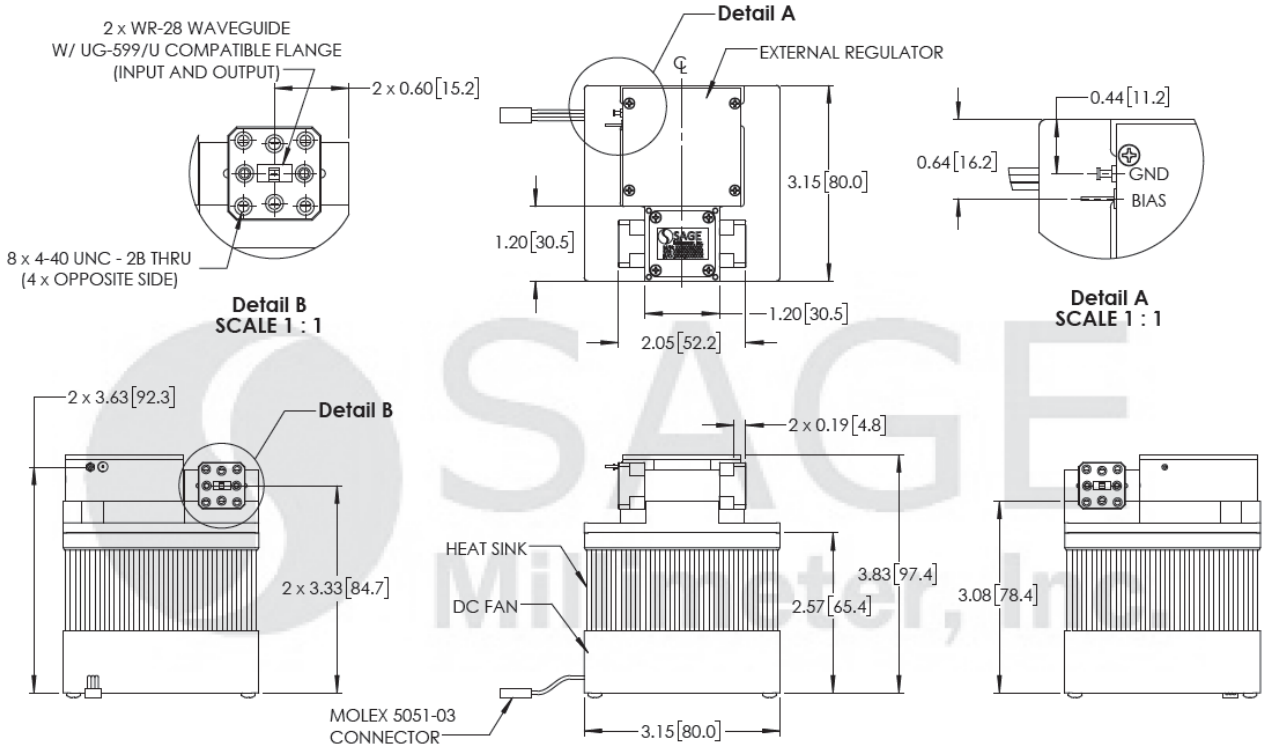
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



MOLEX - 5051-03	
WIRE	**SIGNAL**
BLACK	GND
RED	+12 VDC
YELLOW	TACH

Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 ˚C case temperature.
- The amplifier employs SAGE Millimeter's trademarked and patent pending technology, **Uni-Guide™**, as its waveguide interfaces. The orientation of the input and the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be **SBP-2734132530-2828H-E1-HR** instead of the default **SBP-2734132530-2828-E1-HR** which indicates vertical orientation output.
- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.

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- The case temperature of the device shall never exceed +50 ˚C. Use proper heatsink or fan if necessary.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- 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.**

SAGE Millimeter, Inc.

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