SBP-6637832016-1212-EC

Rev. 1.4

E-Band Power Amplifier, 66 to 78 GHz, 35 dB Gain, +19 dBm P_{1dB}

Description:

Model SBP-6637832016-1212-EC is a power amplifier with a typical small signal gain of 35 dB and a nominal P_{1dB} of +19 dBm across the frequency range of 66 to 78 GHz. The amplifier has a typical P_{sat} of +22 dBm, which can be attenuated up to 10 dB using a control voltage of 0 to +5 V_{DC}. The DC power requirement for the amplifier is +8 V_{DC}/550 mA. The mechanical configuration offers an in line structure with WR-12 waveguides and UG-387/U anti-cocking flanges. Other port configurations are also available under different model numbers.

Features:

- High Output Power
- Output Power Control

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	66 GHz		78 GHz
Gain		35 dB	
P_{1dB}		+19 dBm	
P_{sat}		+22 dBm	
P_{sat} Control Range	0 dB	7 dB	10 dB
P_{in}			+0 dBm
Input/ Output Return Loss		6 dB	
DC Supply Voltage	+6 V_{DC}	+8 V_{DC}	+12 V_{DC}
DC P_{sat} Control Voltage	0 V_{DC}		+5 V_{DC}
DC Supply Current		550 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Ports	WR-12 Waveguide with UG-387/U-M Flange
Bias	Solder Pin
Psat Control	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.10” (W) X 1.50” (L) X 0.75” (H)
Outline	BG-SE-2-C

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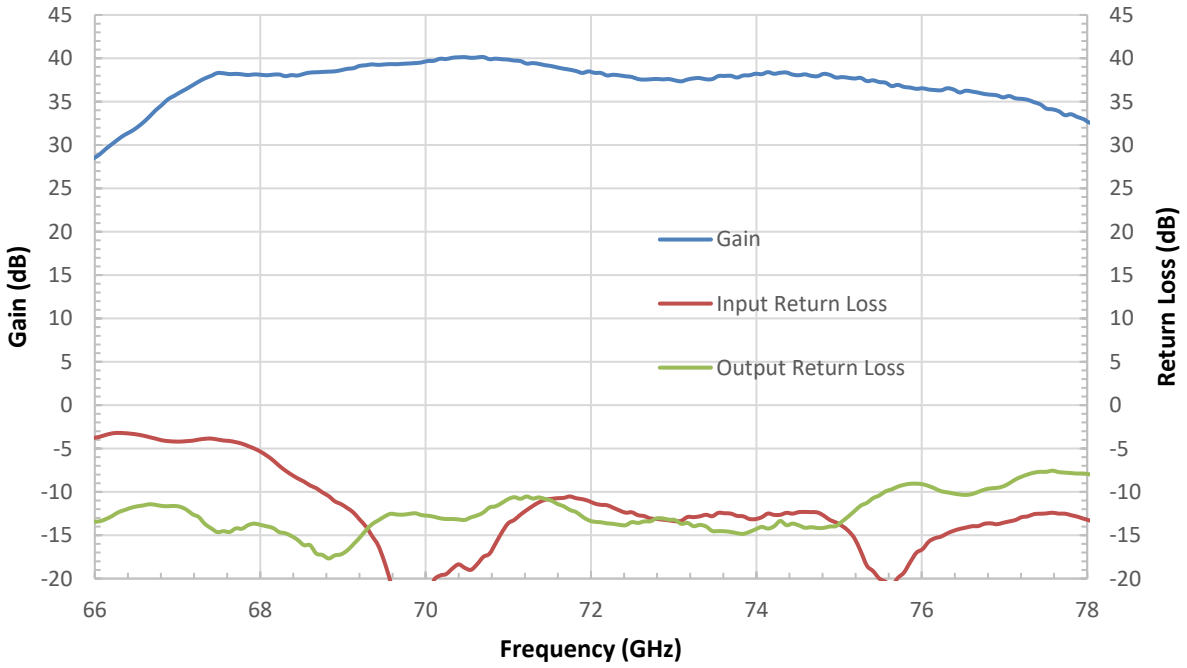
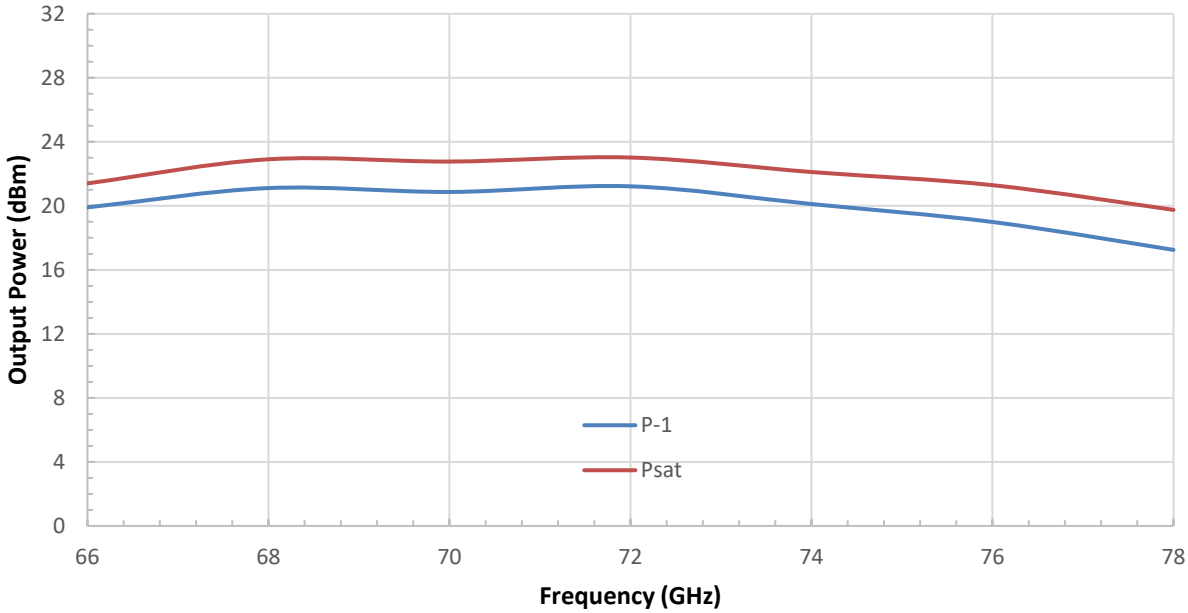
Gain and Return Loss vs. Frequency

Bias: +8V_{DC}/439 mA



Output Power vs. Frequency

Bias: +8V_{DC}/465 mA



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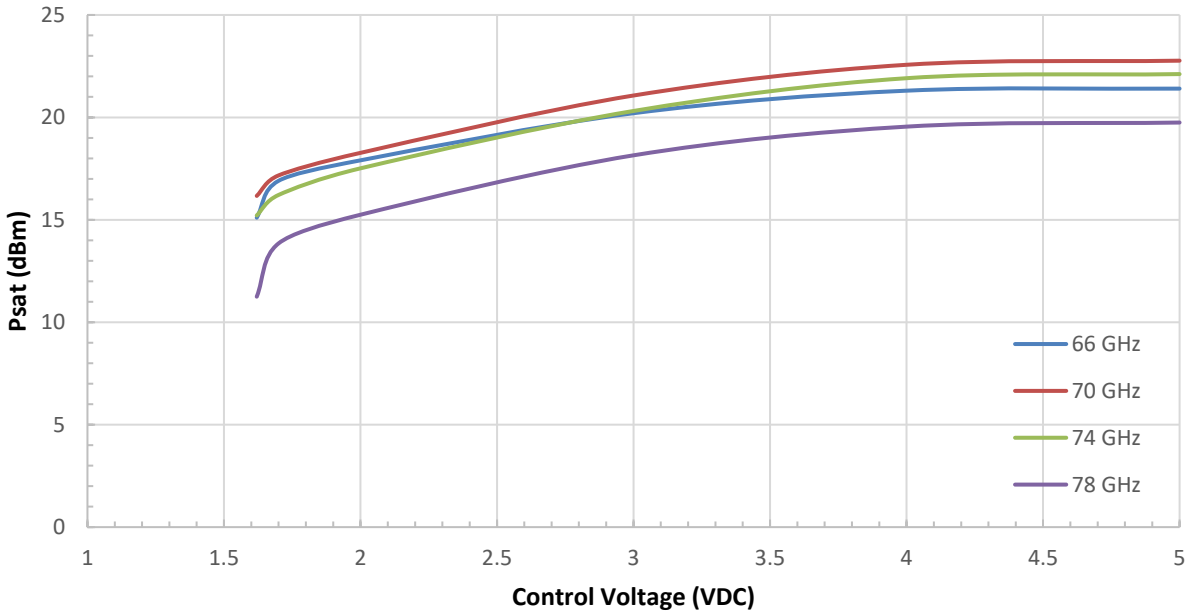
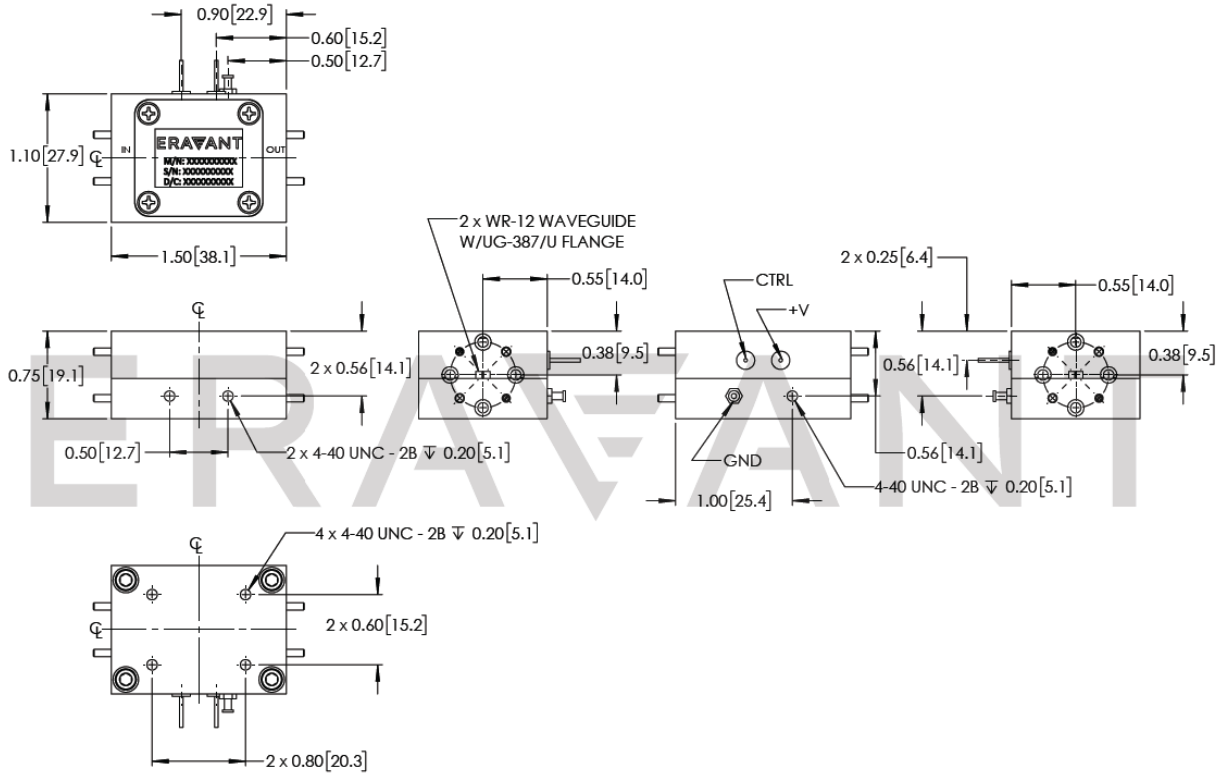
Psat vs. Control Voltage

Bias: +8V_{DC}/465 mA



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



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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.
- Eravant 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.
- 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 bias sequence must be followed.** Otherwise, damage may occur to the device(s). The recommended instructions below are for model SBP-6637832016-1212-EC.
    1) Connect ground.
    2) Apply 8V to +V pin.
    3) Slowly increase drain bias CTRL to a value between 0V and 5V.
    4) Apply the RF signal.
- **Proper power down sequence must be followed.** Otherwise, damage may occur to the device(s). The recommended instructions below are for model SBP-6637832016-1212-EC.
    1) Turn off RF signal.
    2) Decrease drain voltage to CTRL to 0V.
    3) Decrease +V to 0V.