

Product Features

- 0.1 to 6GHz Frequency Range
- +26 dBm P-1dB at 2GHz
- +45 dBm OIP3 at 2GHz
- 16 dB Gain at 2GHz
- 6 dB Noise Figure

Product Description

The GSP7427-89 is an unmatched General Purpose Medium Power Amplifier that covers the 100MHz to 6GHz frequency range with 16 dB nominal matched gain at 2GHz. It also has superior Third Order Intermodulation Distortion characteristics.

The GSP7427-89 is an amplifier fabricated with high reliability InGaP/GaAs Heterojunction Bipolar Transistor (HBT) process. It requires external, bandwidth optimized matching for operation. The amplifier is ideal for wireless Base Station predriver and wide dynamic range LNA 2nd and 3rd stages. It is in bare die format.

This amplifier can be used for current and next generation equipment wireless applications to 6GHz

Applications

- Mobile infrastructure
- ISM
- WLAN
- RFID
- WiMAX/WiBRO

Specifications (1)

Parameter	Units	Min	Typ	Max
Frequency Range	MHz	100		6000
Test Frequency (2)	MHz		2140	
Gain (2)	dB	15	16	
Pout @ -1dB GCP	dBm	+25	+26	
Input Return Loss (2)	dB		15	
Output Return Loss (2)	dB		7	
OIP3 (2)	dBm	+40	45	
Noise Figure (2)	dB		6	
Operating Current (Icc)	mA		130	

1. Test conditions unless otherwise specified: 25°C, Supply Voltage = +7.00V
2. Measured in evaluation circuit tuned for 2110MHz – 2170MHz

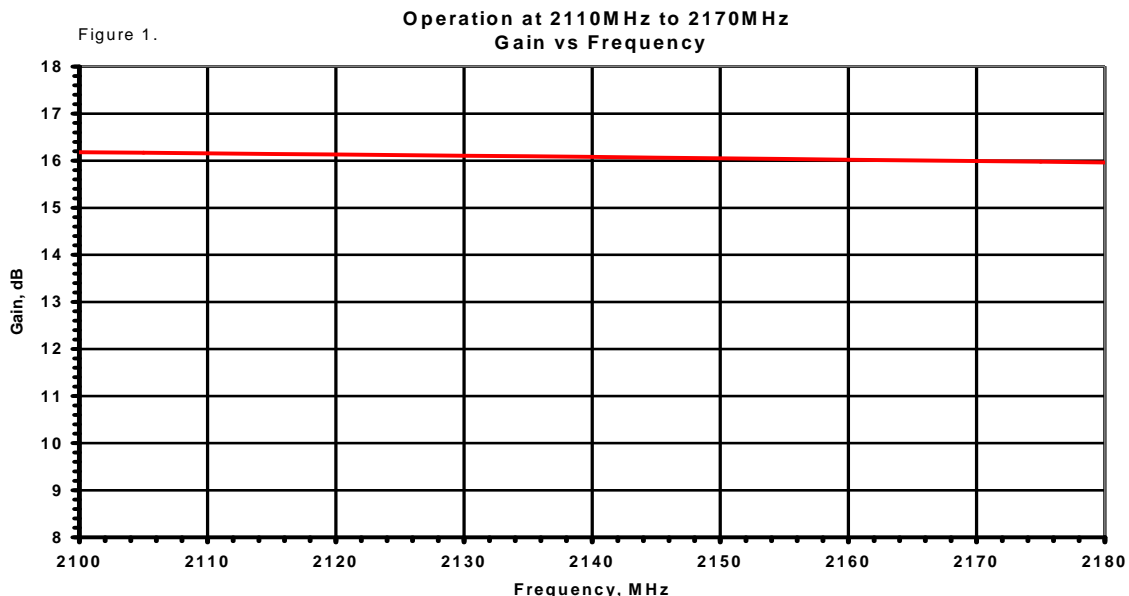


Figure 2. Operation at 2110MHz to 2170MHz
Return Loss vs Frequency

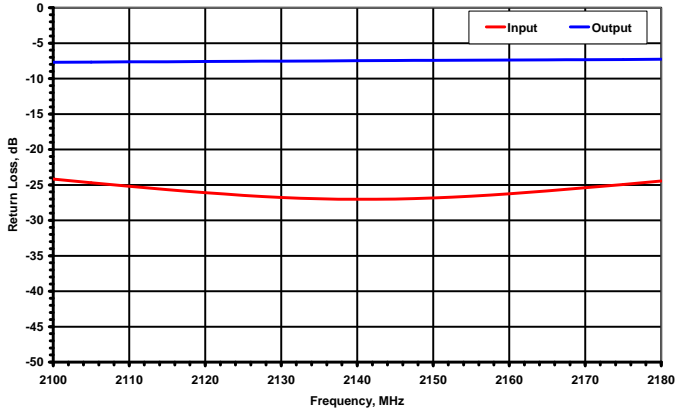


Figure 3. Operation at 2110MHz to 2180MHz
Output Power vs Frequency

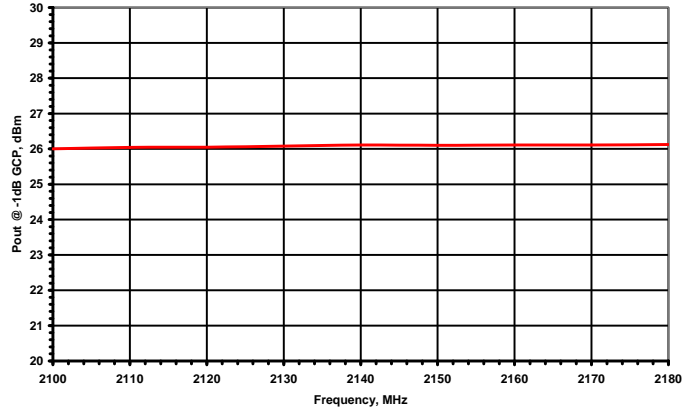


Figure 4. OIP3 vs Frequency

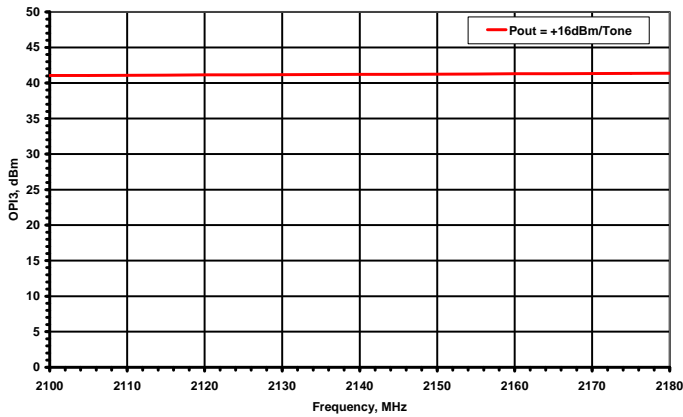


Figure 5. Operation at 2110MHz to 2170MHz
Group Delay vs Frequency

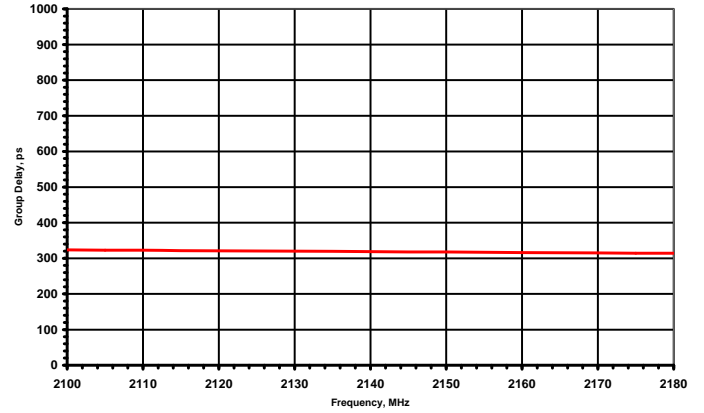


Figure 6. Application Circuit, 2110MHz - 2170MHz

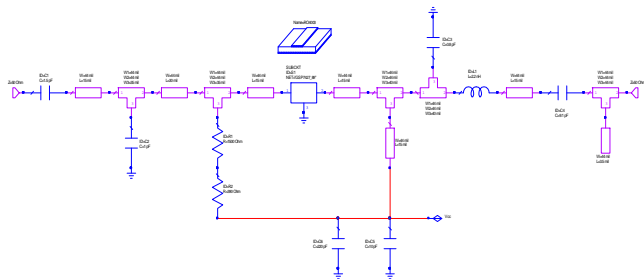


Figure 7. Application Circuit, 2110MHz to 2170MHz

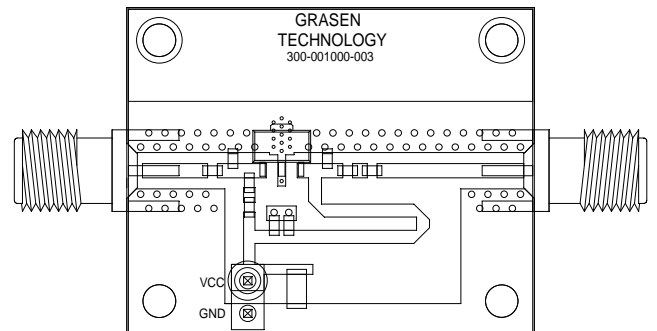


Figure 8. Operation at 3300MHz to 3800MHz
Gain vs Frequency

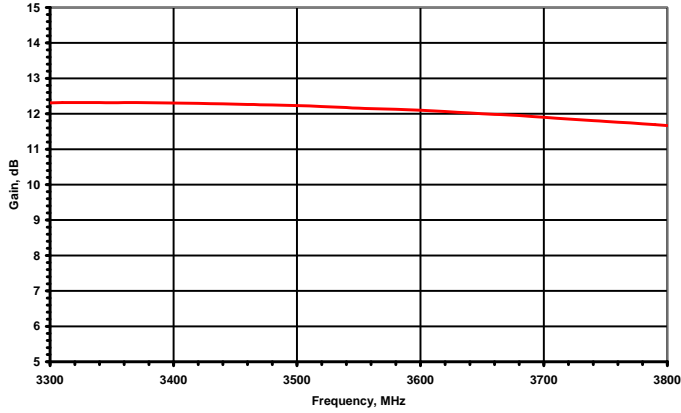


Figure 9. Operation at 3300MHz to 3800MHz
Return Loss vs Frequency

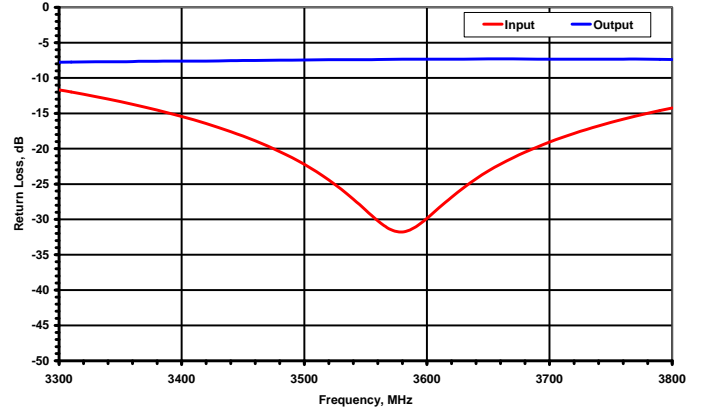


Figure 10. Operation at 3300MHz to 3800MHz
Output Power vs Frequency

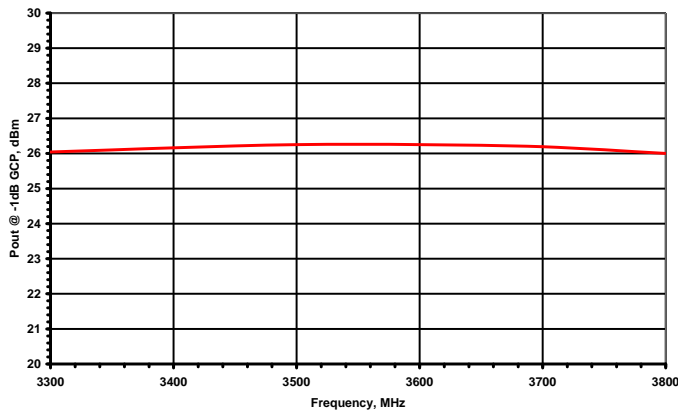


Figure 11. Operation at 3300MHz to 3800MHz
OIP3 vs Frequency

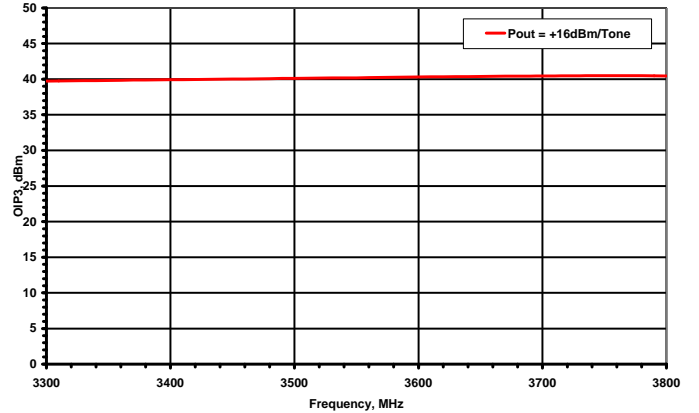


Figure 12. Application Circuit, 2110MHz - 2170MHz

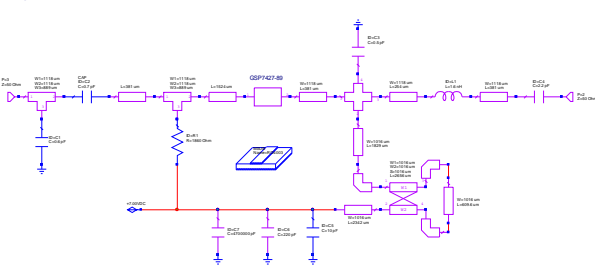
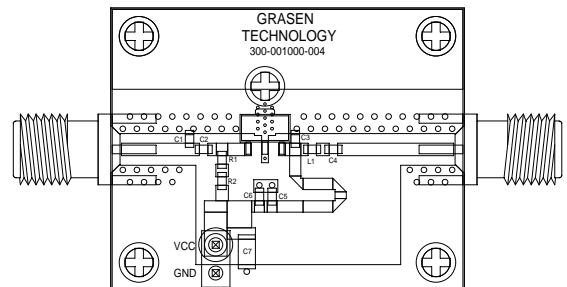
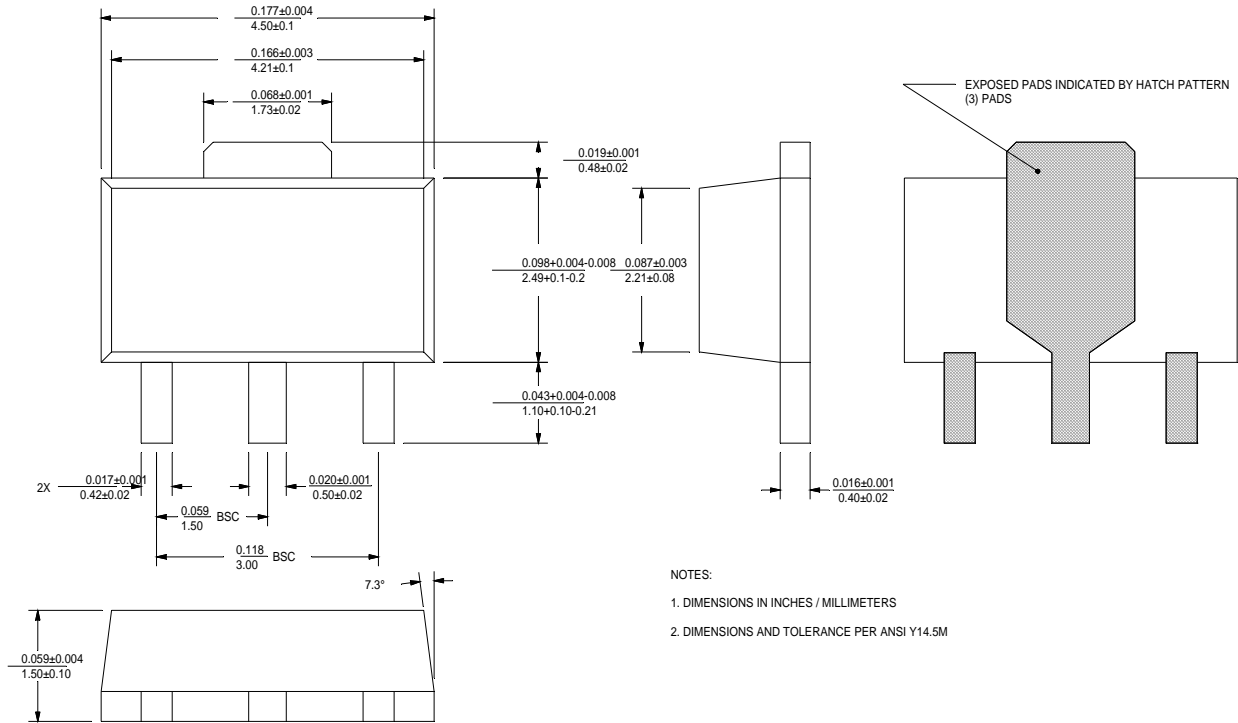


Figure 13. Application Board, 3300MHz to 3800MHz





Package Outline

Absolute Maximum Ratings

Parameter	Rating
Case Temperature, Operating	-40 to +85 °C
Storage Temperature	-55 to +150 °C
Device Current	150mA
RF Input Power, continuous	+20 dBm
Junction Temperature	250 °C

Operation of this device above any of these parameters will cause permanent damage.

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