

High Power Amplifier at 4 Watt P1dB Operating From 1 GHz to 2 GHz with 35 dB Gain, 45 dBm IP3 and SMA

SPA-020-27-04-SMA is a L-band coaxial 4W power amplifier, operating in the 1 to 2 GHz frequency range and designed for low noise and high linearity applications. The amplifier offers 36 dBm of P1dB and high 35 dB small signal gain, with the excellent gain flatness of ± 1.0 dB max, along with an outstanding IP3 performance of 45 dBm and 1.5 dB Noise Figure. This performance is achieved through using hybrid MIC design and advanced GaAs PHEMT devices. This power amplifier requires only a single positive DC supply, Unconditionally stable, and operates over the temperature range of -40°C to 75°C .

Electrical Specifications (TA = $+25^{\circ}\text{C}$, DC Voltage = 12Volts , DC Current = 800mA)

Description	Min	Typ	Max	Unit
Frequency Range	1		2	GHz
Small Signal Gain	32	35		dB
Gain Flatness		± 0.75	± 1	dB
P1dB	+35	+36		dBm
Output 3rd Intercept Point	+40	+45		dBm
Reverse Isolation		55		dB
Noise Figure		1.5	2	dB
Input VSWR		1.5:1	1.7:1	
Output VSWR		1.5:1	1.7:1	
Operating DC Voltage	11.5	12	13	Volts
Operating DC Current		800	1,500	mA
Operating Temperature Range	-40		+75	$^{\circ}\text{C}$

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+10	dBm
Operating Temperature (base-plate)	-40 to $+75$	$^{\circ}\text{C}$
Storage Temperature	-55 to $+125$	$^{\circ}\text{C}$



ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Configuration

- Connector 1 SMA Female
- Connector 2 SMA Female

Compliance Certifications (visit www.FairviewMicrowave.com for current document)

RoHS Compliant Yes



Features:

- 1 GHz to 2 GHz Frequency Range
- P1dB: 36 dBm
- High Small Signal Gain: 35 dB
- Gain Flatness: ± 0.75 dB
- Gain Variation: ± 1.25 dB
- Output IP3: 45 dBm
- Noise Figure: 1.5 dB
- Reverse Isolation: 55 dB
- 50 Ohm Input and Output Matched
- -40 to $+75^{\circ}\text{C}$ Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in Voltage Regulator

Applications:

- Laboratory Applications
- R&D Labs
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Microwave Radio Systems
- Power Amplifier
- Low Noise Amplifier
- High Dynamic Range Amplifier
- General Purpose Amplification

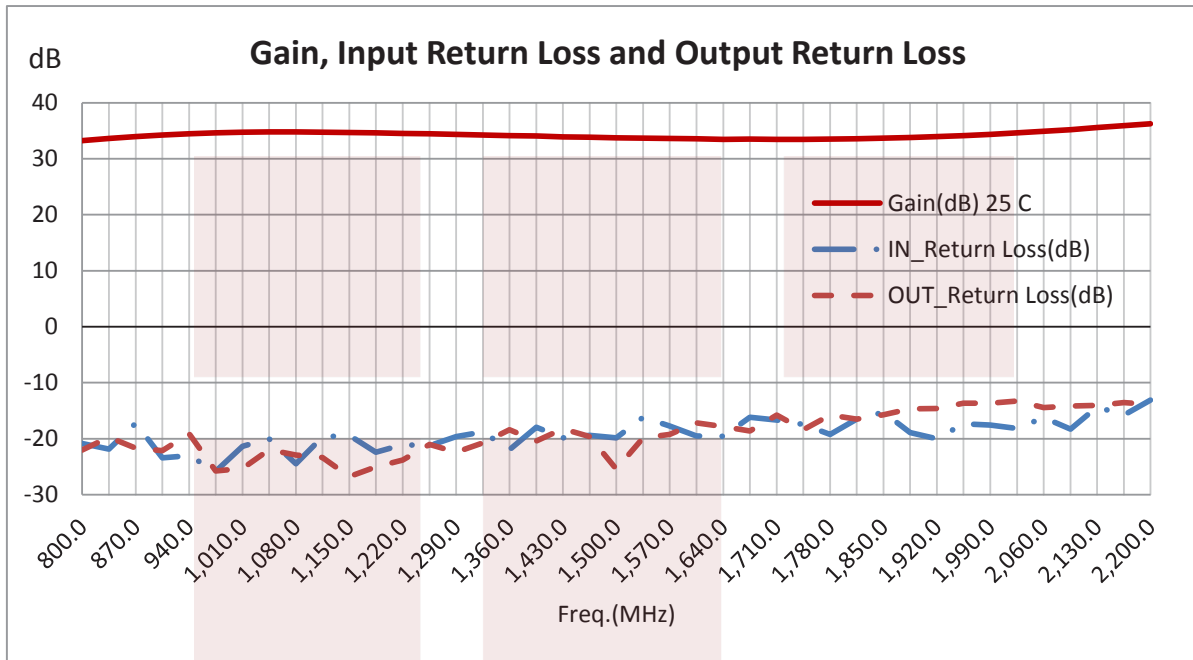
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Plotted and Other Data

Notes:

- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

Power Data

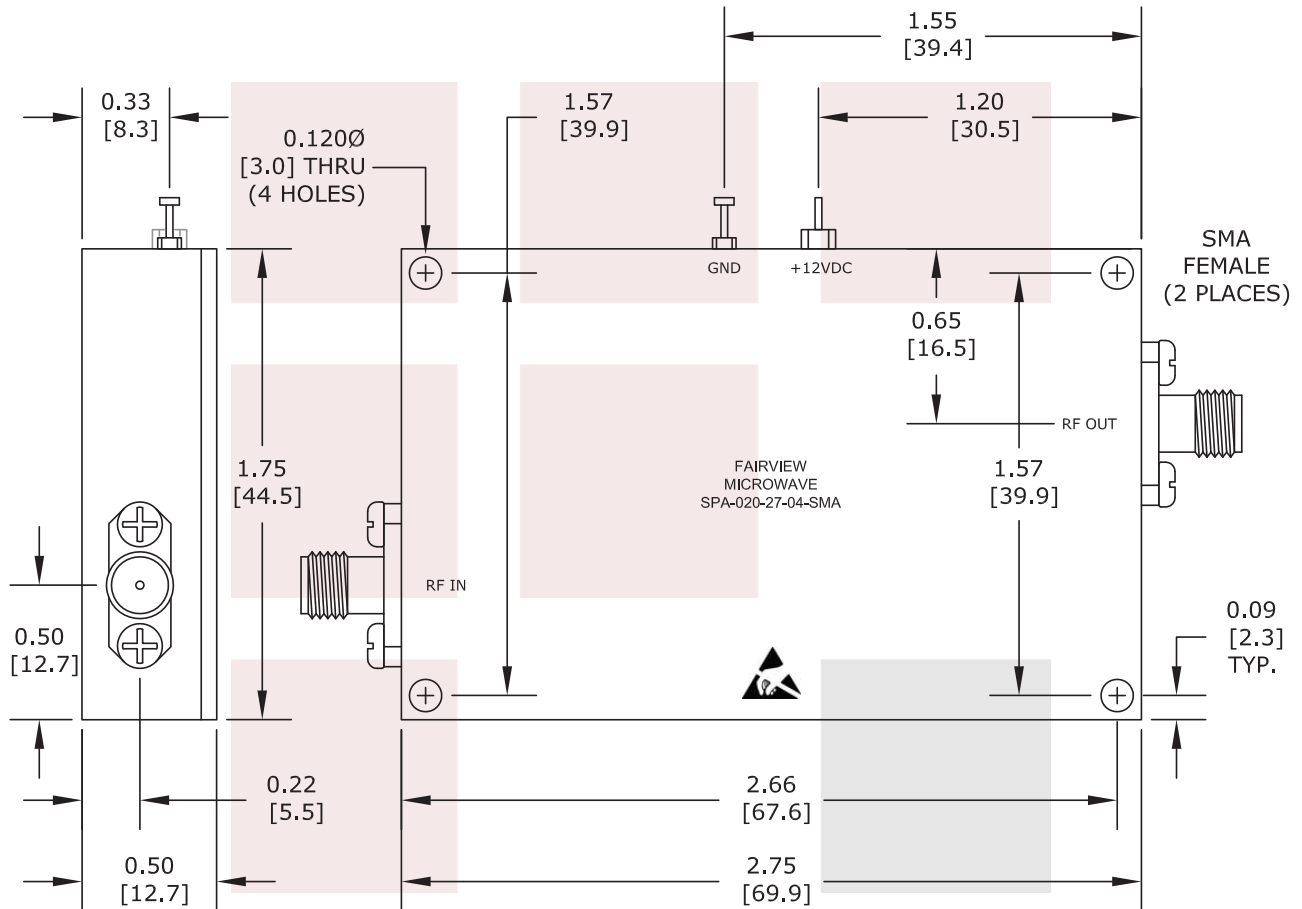


High Power Amplifier at 4 Watt P1dB Operating From 1 GHz to 2 GHz with 35 dB Gain, 45 dBm IP3 and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [High Power Amplifier at 4 Watt P1dB Operating From 1 GHz to 2 GHz with 35 dB Gain, 45 dBm IP3 and SMA SPA-020-27-04-SMA](http://www.fairviewmicrowave.com/high-power-amplifier-4watt-35db-spa-020-27-04-sma)

URL: <http://www.fairviewmicrowave.com/high-power-amplifier-4watt-35db-spa-020-27-04-sma-p.aspx>

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NOTE:
 HEAT SINK REQUIRED FOR PROPER OPERATION,
 UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

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NOTES:
 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
 3. DIMENSIONS ARE IN INCHES [mm].

TITLE High Power Amplifier at 4 Watt P1dB Operating From 1 GHz to 2 GHz with 35 dB Gain, 45 dBm IP3 and SMA		DWG NO SPA-020-27-04-SMA	CAGE CODE 3FKR5		
CAD FILE	SHEET	SCALE N/A	SIZE A		