

## High Power Amplifier at 5 Watt P1dB Operating From 500 MHz to 2.8 GHz with 37 dB Gain, 52 dBm IP3 and SMA

The SPA-028-37-05-SMA is a 5W wideband high gain power coaxial amplifier operating in the 0.5 to 2.8 GHz frequency range. The amplifier offers 5 Watts typ of P1dB and high 37 dB typical small signal gain with the gain flatness of  $\pm 2$  dB typical. This excellent technical performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The driver amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, load VSWR protection, reverse bias protection, and thermal protection for added reliability. The amplifier operates over the temperature range of -10°C and +65°C.

**Electrical Specifications** (TA = +25°C, DC Voltage = 12Volts , DC Current = 1,800mA)

Description	Min	Typ	Max	Unit
Frequency Range	0.5		2.8	GHz
Small Signal Gain	36	37		dB
Gain Flatness		$\pm 2$		dB
P1dB		+37		dBm
Output 3rd Order Intercept Point	+49	+52		dBm
Input Return Loss	-11	-14		dB
Operating DC Voltage		12		Volts
Operating DC Current			1,800	mA
Operating Temperature Range	-10		+65	°C

### Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+10	dBm
Operating Temperature (base-plate)	-10 to +65	°C
Storage Temperature	-55 to +100	°C



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

### Mechanical Specifications

<b>Size</b>	
Length	5 in [127 mm]
Width	2.5 in [63.5 mm]
Height	2.2 in [55.88 mm]
Weight	0.5 lbs [226.8 g]
Input Connector	SMA Female
Output Connector	SMA Female



### Features:

- 0.5 GHz to 2.8 GHz Frequency Range
- P1dB 37 dBm
- Small Signal Gain: 37 dB
- Gain Flatness:  $\pm 2$  typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Overvoltage Protection
- Thermal Protection

### Applications:

- Military Radar
- Commercial Air Traffic Control
- Weather & Earth Observation Satellites
- Radar & Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier

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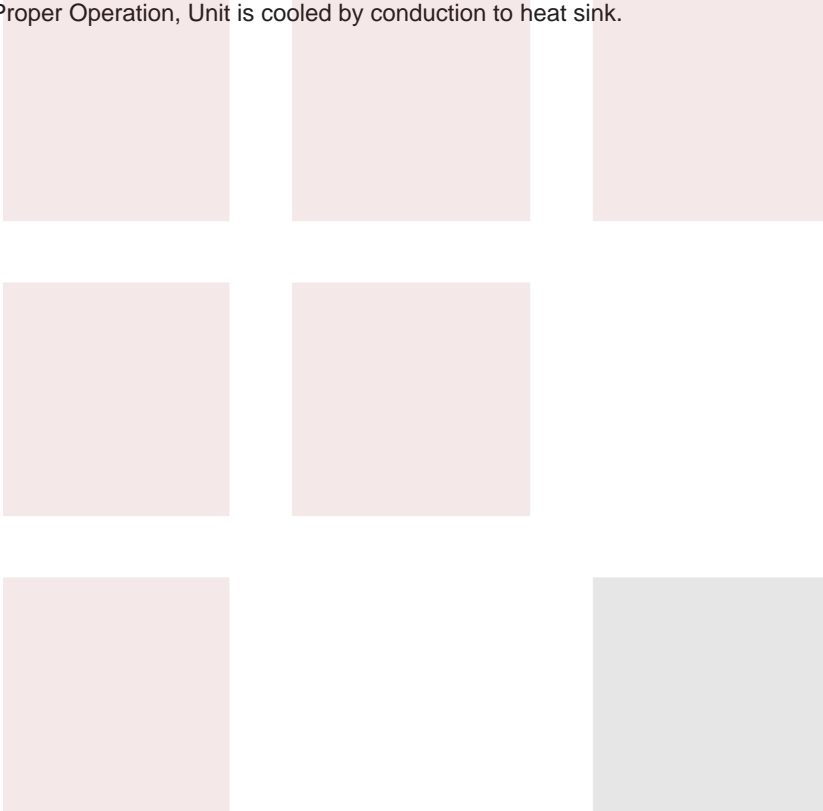
Environmental Specifications

Temperature	
Operating Range	-10 to +65 deg C
Storage Range	-55 to +100 deg C

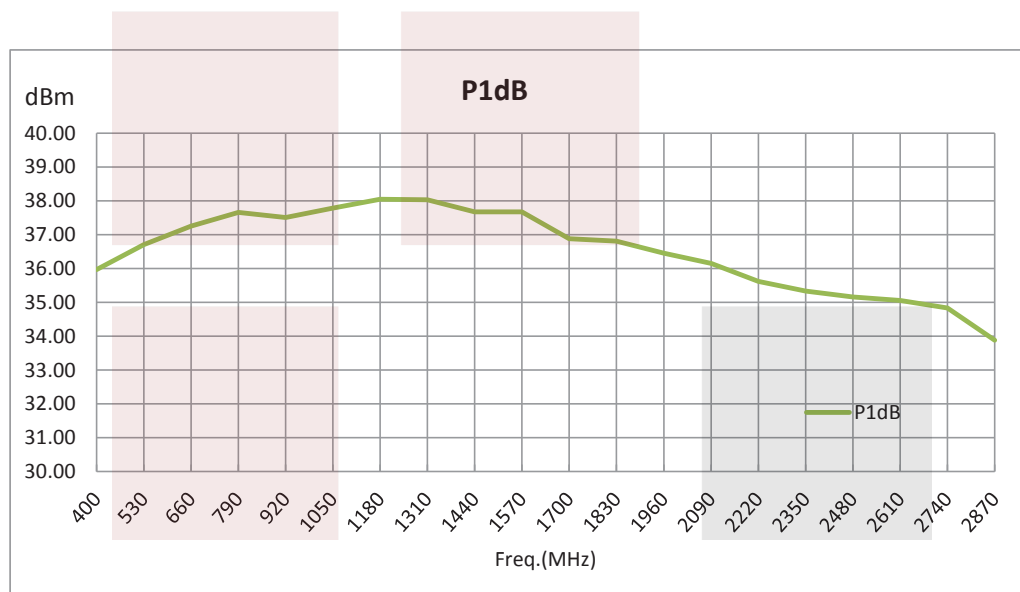
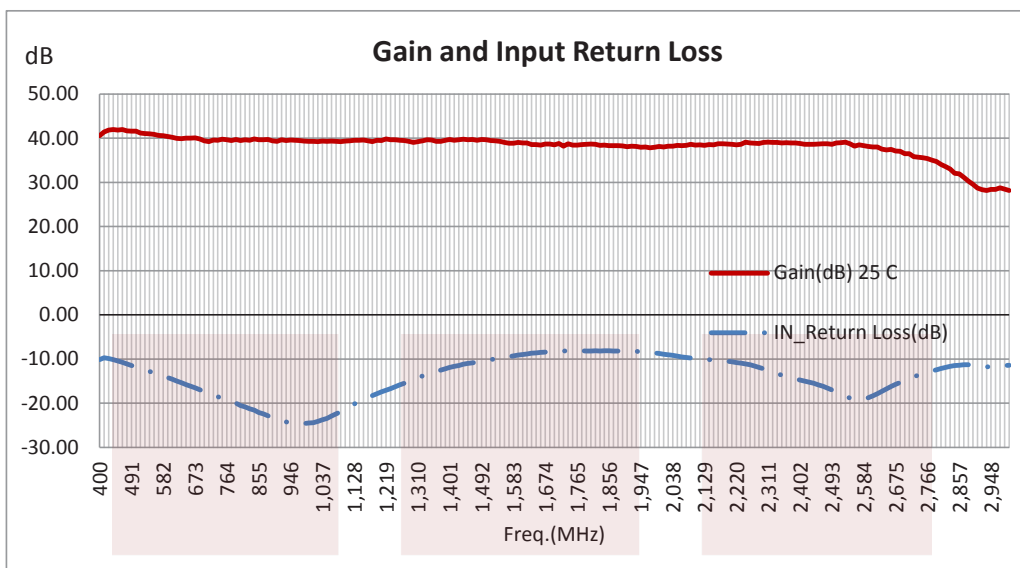
Compliance Certifications (see [product page](#) for current document)

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.



**Typical Performance Data**

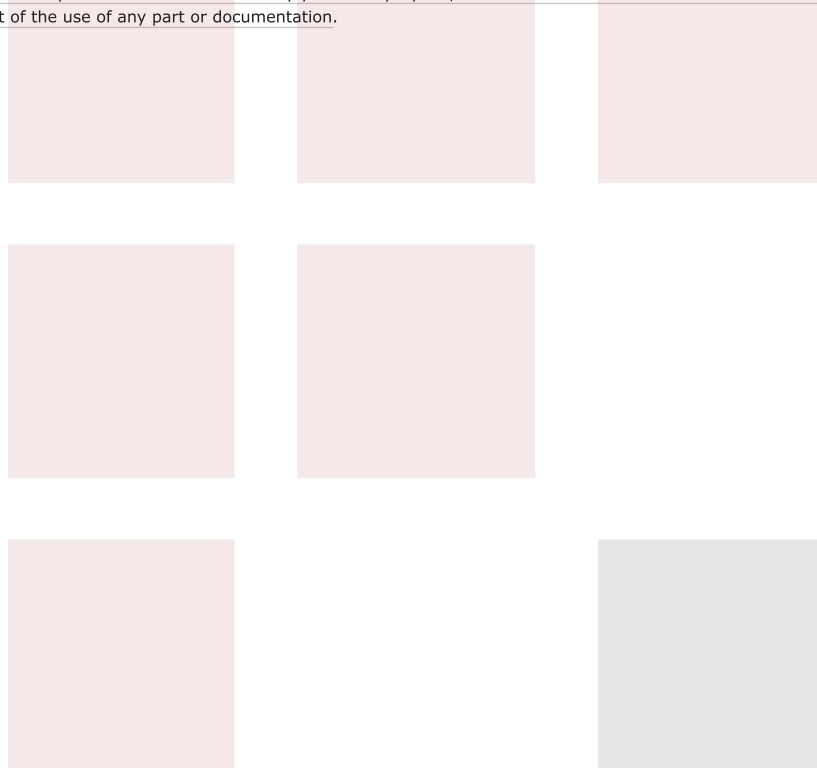


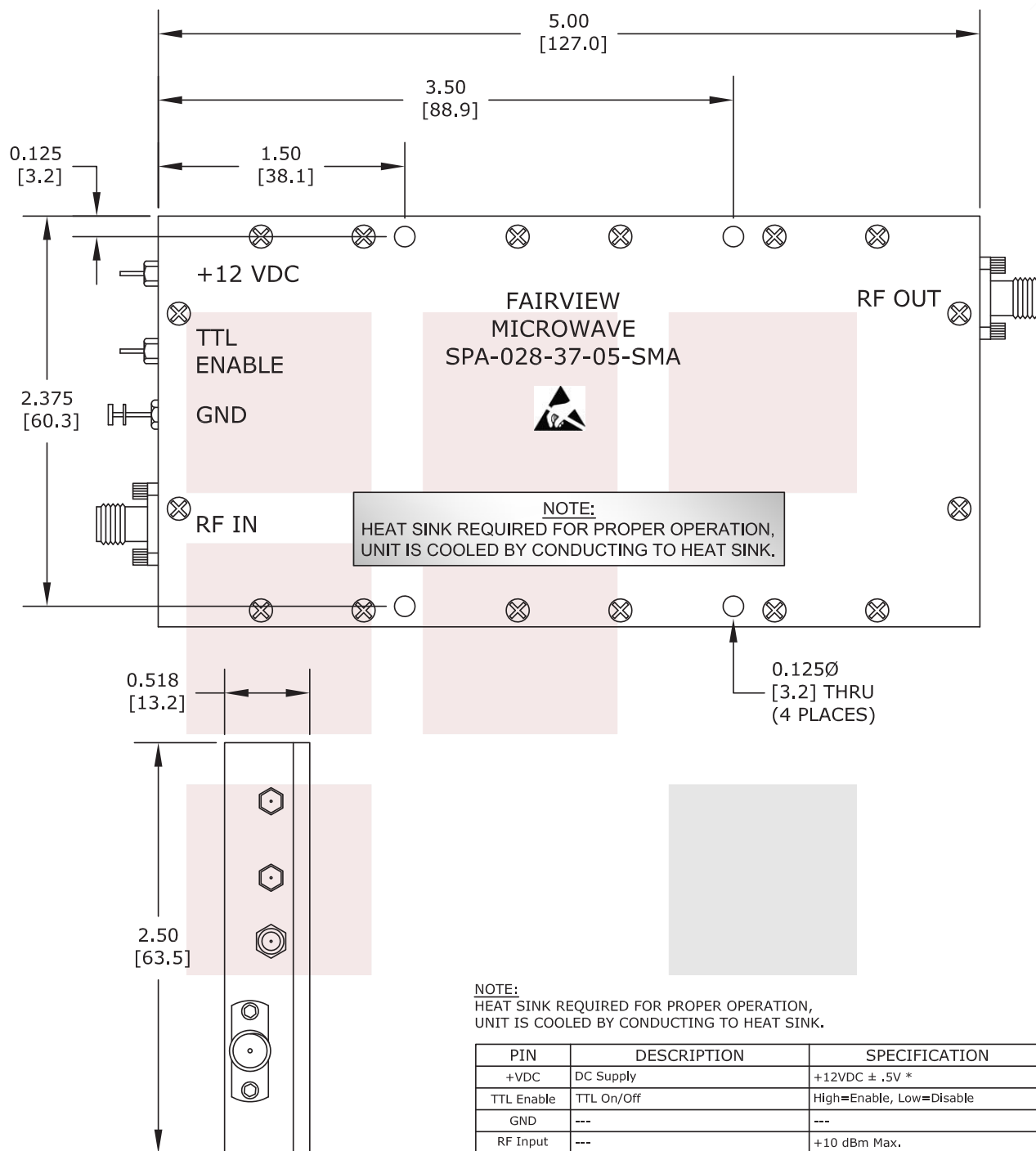
High Power Amplifier at 5 Watt P1dB Operating From 500 MHz to 2.8 GHz with 37 dB Gain, 52 dBm IP3 and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [High Power Amplifier at 5 Watt P1dB Operating From 500 MHz to 2.8 GHz with 37 dB Gain, 52 dBm IP3 and SMA SPA-028-37-05-SMA](#)

URL: <https://www.fairviewmicrowave.com/high-power-amplifier-5watt-37db-spa-028-37-05-sma-p.aspx>

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

PIN	DESCRIPTION	SPECIFICATION
+VDC	DC Supply	+12VDC $\pm$ .5V *
TTL Enable	TTL On/Off	High=Enable, Low=Disable
GND	---	---
RF Input	---	+10 dBm Max.

\* SPECIFIED OPERATION AT +12V, HOWEVER, UNIT CAN BE RUN FROM +9 VDC TO +14 VDC.

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TITLE High Power Amplifier at 5 Watt P1dB Operating From 500 MHz to 2.8 GHz with 37 dB Gain, 52 dBm IP3 and SMA		DWG NO SPA-028-37-05-SMA		CAGE CODE 3FKR5	
CAD FILE	091814	SHEET	SCALE	N/A	SIZE A 2233