

**6 GHz to 12 GHz, Medium Power Broadband Amplifier with 1 Watt, 38 dB Gain and SMA**

SPA-120-30-01-SMA is a 1W wideband coaxial power amplifier operating in the 6 to 12 GHz frequency range. The amplifier offers 30 dBm min of P1db and high 34 dB minimal small signal gain with the excellent gain flatness of ±1.0dB max and an outstanding output IP3 performance of 39 dBm. This performance is achieved through the use of hybrid MIC design and advanced GaAs PHEMT devices. The amplifier requires typically a +12V DC power supply. The connectorized SMA module is unconditionally stable and includes built-in voltage regulation, bias sequencing, and reverse bias protection for added reliability. The amplifier operates over the temperature range of -55°C and +85°C.

**Electrical Specifications** (TA = +25°C, DC Voltage = 15Volts, DC Current = 1,300mA)

Description	Min	Typ	Max	Unit
Frequency Range	6		12	GHz
Gain	36	38		dB
Small Signal Gain at OTR*	34			dB
Gain Flatness			±1	dB
P1dB	+30			dBm
Output at 1 dB Compression Point at OTR*	+29			dBm
IP3		+39		dBm
Reverse Isolation		50		dB
Noise Figure		5	5.5	dB
Noise Figure at OTR*			6	dB
Input VSWR			2:1	
Output VSWR			2:1	
Operating DC Voltage	11		15	Volts
Operating DC Current		1,300		mA
Operating Temperature Range (OTR)	-55		+85	°C

\*OTR= Base Plate Operating Temperature Range

**Absolute Maximum Rating**

Parameter	Rating	Units
Source Voltage	+15	Volts
RF input Power	+17	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +95	°C



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



**Features:**

- 6 GHz to 12 GHz Frequency Range
- P1dB: 30 dBm min
- High Small Signal Gain: 38 dB typical
- Gain Flatness: ±1.0 dB max
- High output IP3: 39 dBm
- Noise Figure: 5 dB
- Reverse Isolation: 50 dB
- 50 Ohms Input and Output Matched
- -55 to +85°C Operating Temperature
- Unconditionally Stable
- Regulated Supply & Bias Sequencing
- Hermetically Sealed Module
- Overvoltage External Protection for Easy Repair

**Applications:**

- Electronic Warfare
- Electronic Countermeasures
- Radar Systems
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Microwave Radio Systems
- Driver Amplifier
- High Power Output Amplifier

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**Configuration**

- Connector 1 SMA Female
- Connector 2 SMA Female

**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

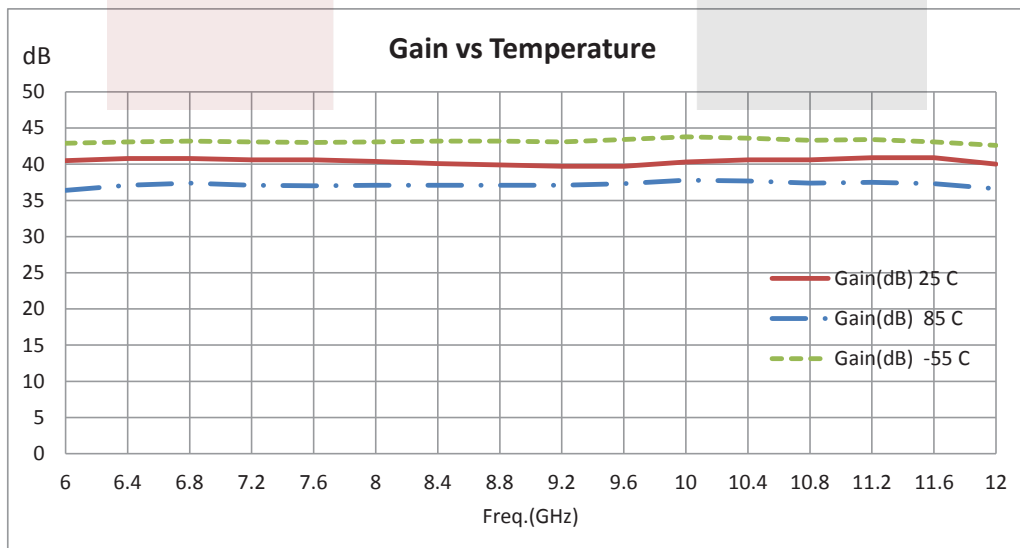
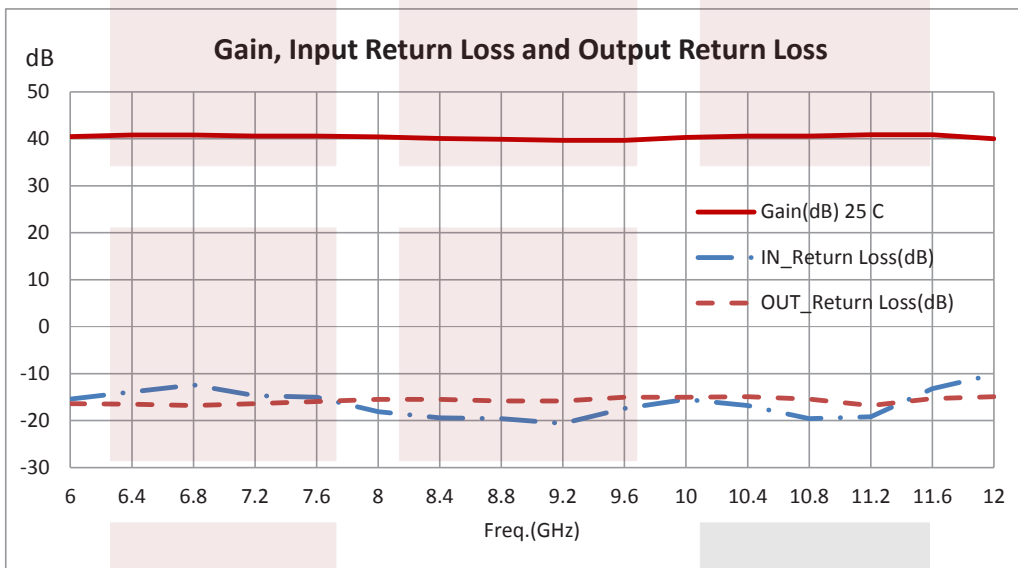
RoHS Compliant Yes

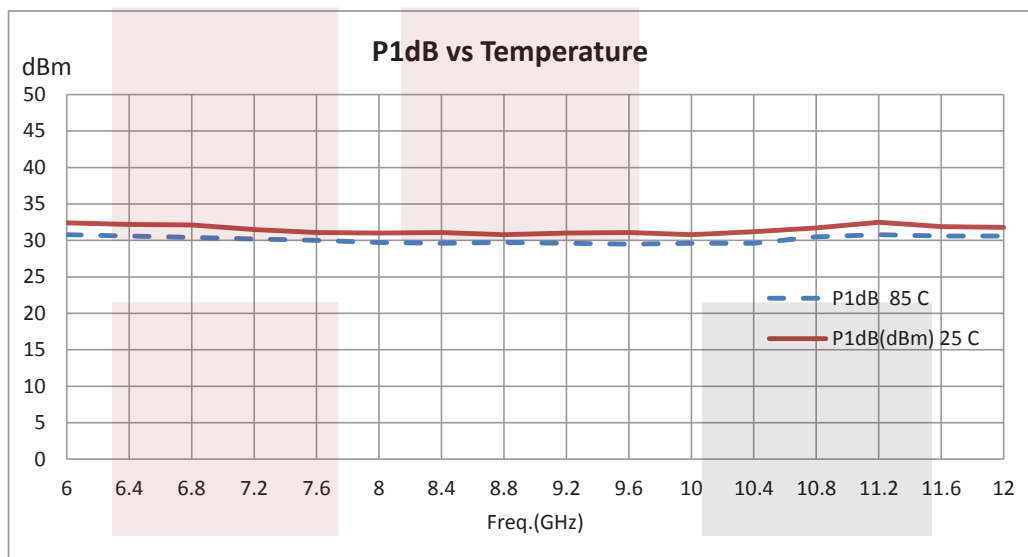
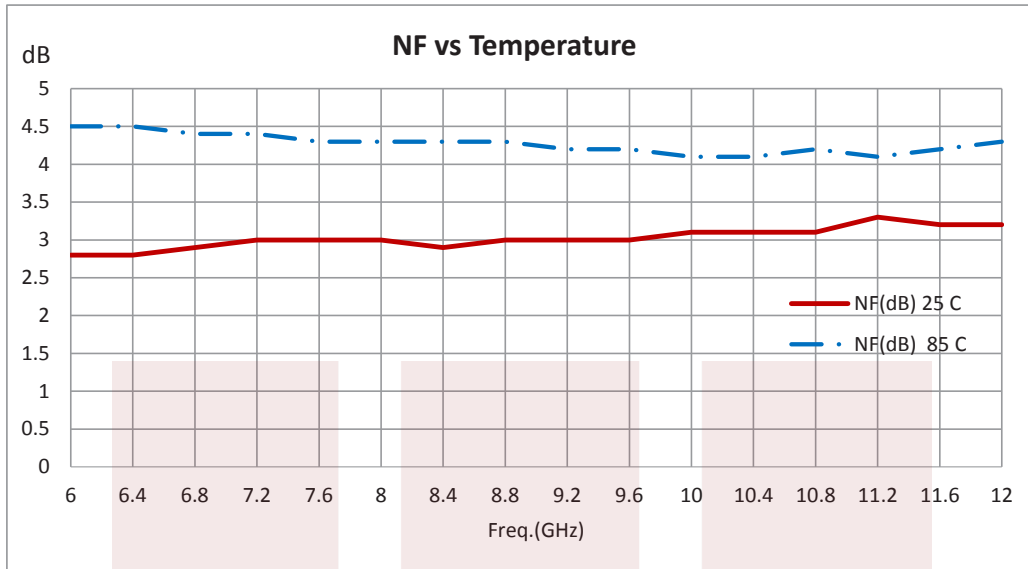
**Plotted and Other Data**

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**



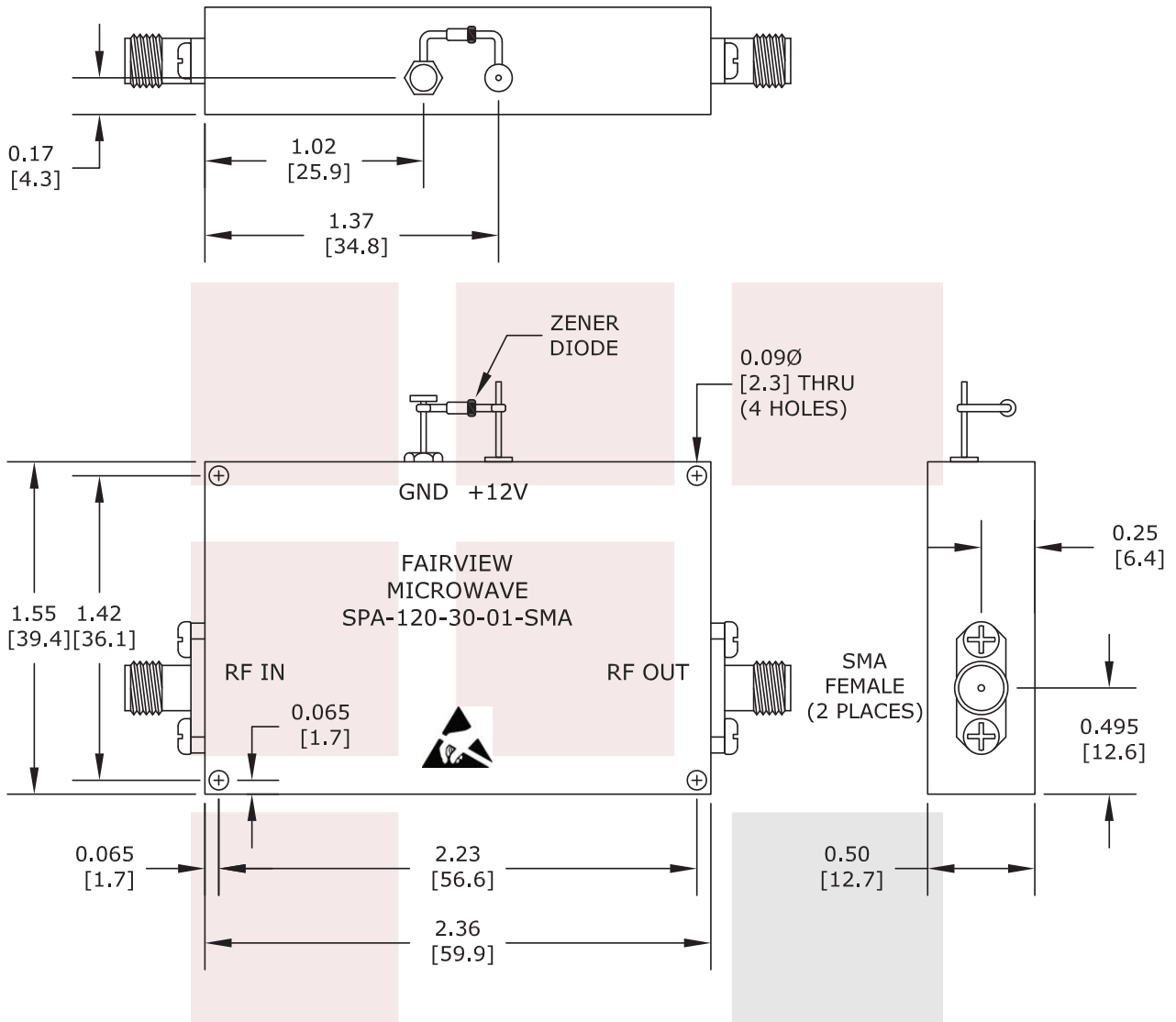


6 GHz to 12 GHz, Medium Power Broadband Amplifier with 1 Watt, 38 dB Gain and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [6 GHz to 12 GHz, Medium Power Broadband Amplifier with 1 Watt, 38 dB Gain and SMA SPA-120-30-01-SMA](http://www.fairviewmicrowave.com/6-12-ghz-medium-power-broadband-amplifier-spa-120-30-01-sma-p.aspx)

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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



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

<b>FAIRVIEW MICROWAVE INC.</b> ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		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 6 GHz to 12 GHz, Medium Power Broadband Amplifier with 1 Watt, 38 dB Gain and SMA		DWG NO SPA-120-30-01-SMA		CAGE CODE 3FKR5	
CAD FILE	050914	SHEET	SCALE	N/A	SIZE A 2233