

12 GHz to 18 GHz, Medium Power Broadband Amplifier with 1 Watt, 33 dB Gain and SMA

SPA-180-30-01-SMA is a 1W wideband coaxial power amplifier operating in the 12 to 18 GHz frequency range. The amplifier offers 30 dBm min of P1dB and 33 dB typical small signal gain, with gain flatness of ± 2.0 dB max and an outstanding output IP3 performance of 39 dBm. This excellent 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 = 2,000mA)

Description	Min	Typ	Max	Unit
Frequency Range	12		18	GHz
Gain	31	33	3.5	dB
Small Signal Gain at OTR*	28			dB
Gain Flatness			± 2	dB
P1dB	+30			dBm
Output at 1 dB Compression Point at OTR*	+28			dBm
IP3		+39		dBm
Reverse Isolation		50		dB
Noise Figure		6	6.5	dB
Noise Figure at OTR*			7	dB
Input VSWR			2.5:1	
Output VSWR			2.5:1	
Operating DC Voltage			15	Volts
Operating DC Current		2,000		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	-55 to +85	°C



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



Features:

- 12 GHz to 18 GHz Frequency Range
- P1dB: 30 dBm min
- Small Signal Gain: 33 dB typical
- Gain Flatness: ± 2.0 dB max
- High output IP3: 39 dBm
- Noise Figure: 6.5 dB max
- Reverse Isolation: 50 dB
- 50 Ohm 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
- Satellite Communication
- Communication Systems
- Microwave Radio Systems
- Driver Amplifier
- High Power Output Amplifier

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Configuration

- Connector 1
- Connector 2

SMA Female
SMA Female

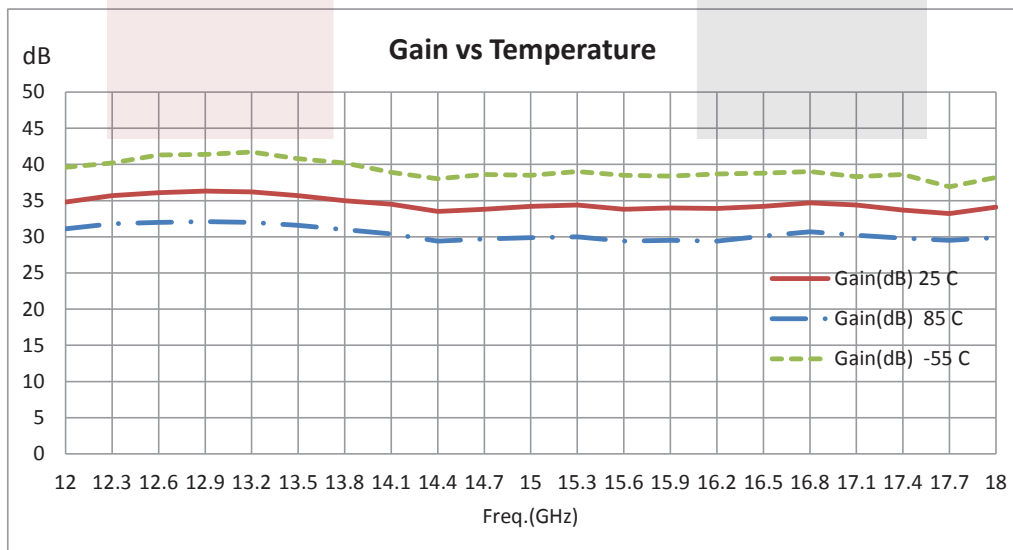
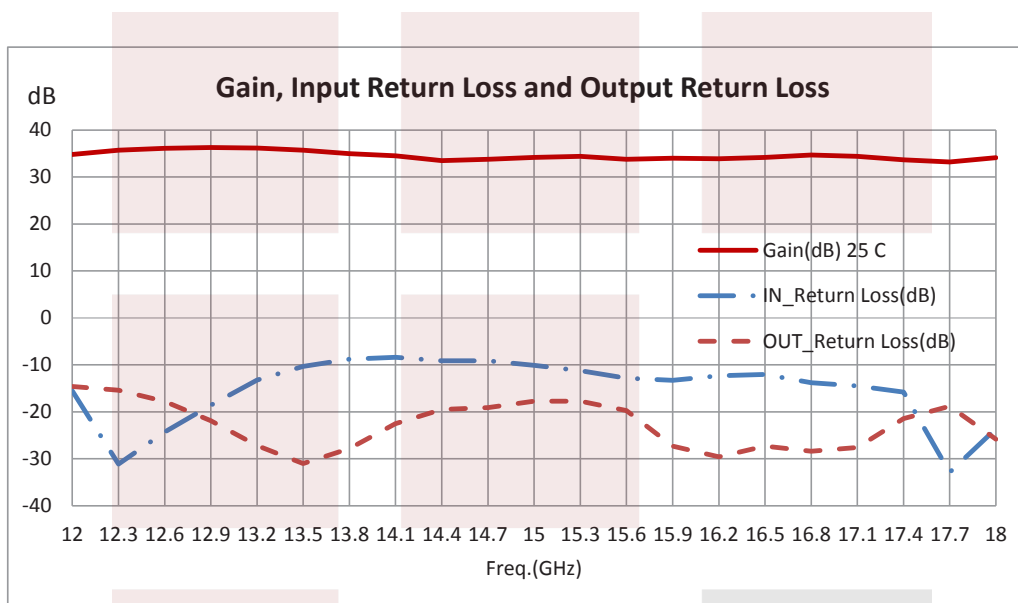
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

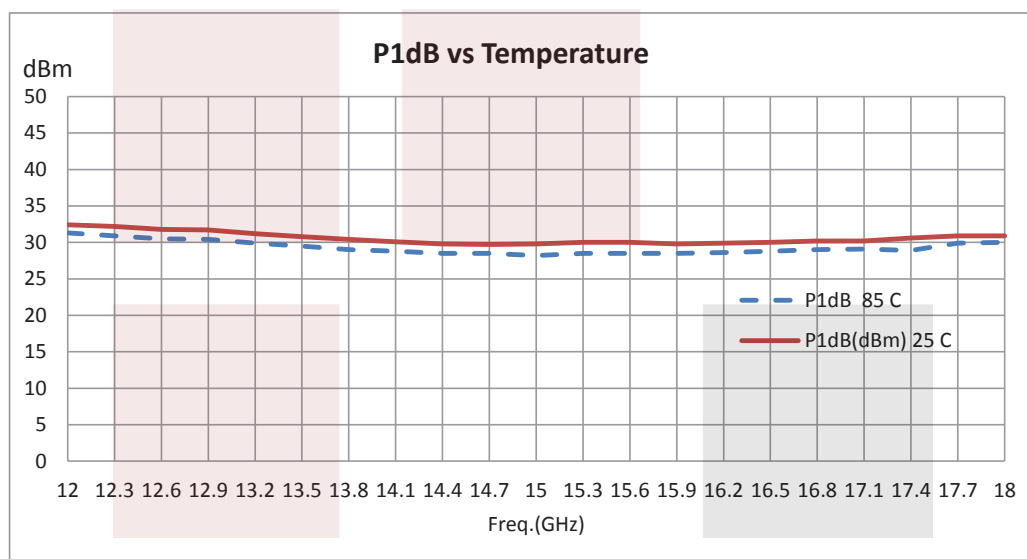
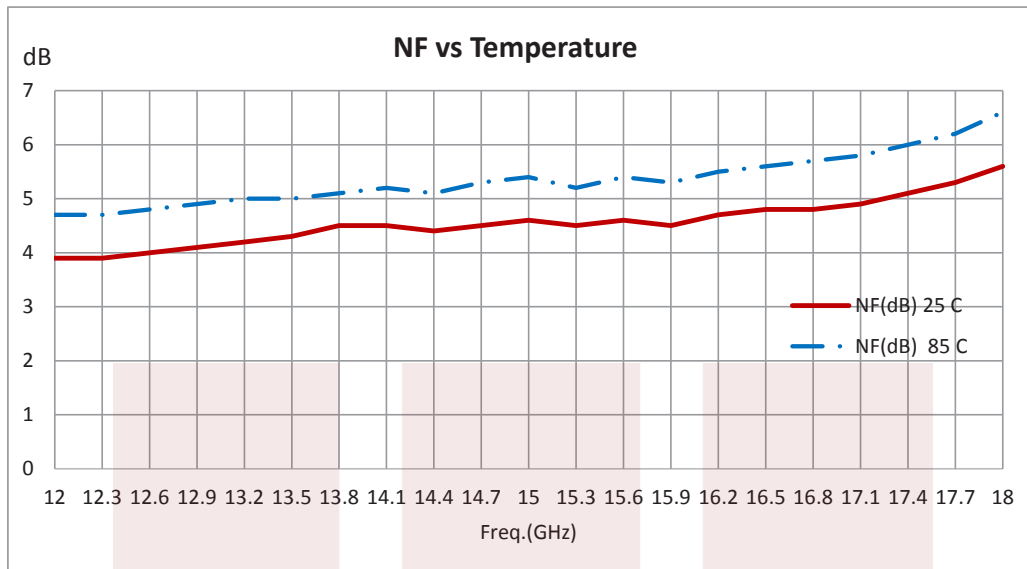
Plotted and Other Data

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.

Power Data



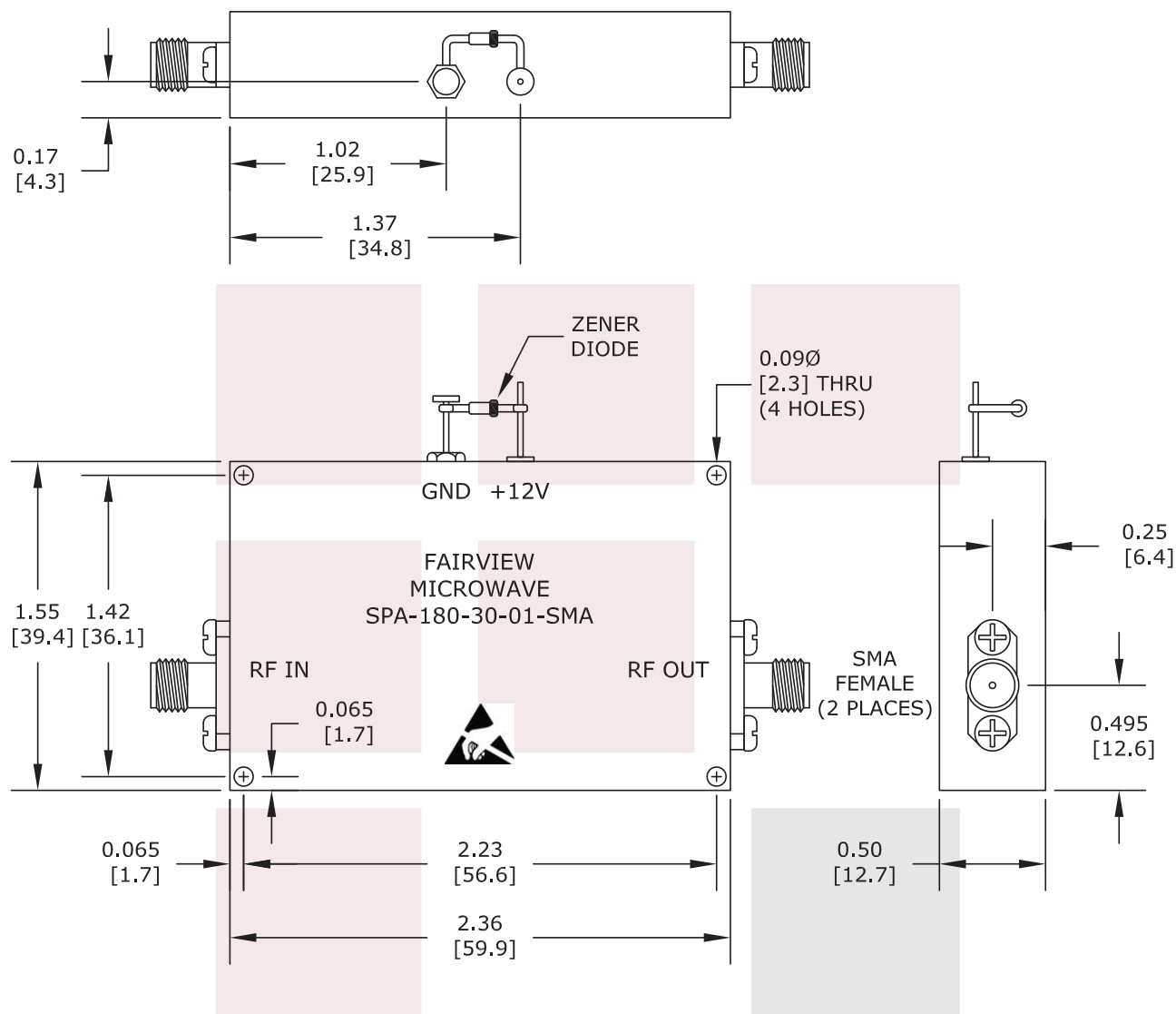


12 GHz to 18 GHz, Medium Power Broadband Amplifier with 1 Watt, 33 dB Gain and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [12 GHz to 18 GHz, Medium Power Broadband Amplifier with 1 Watt, 33 dB Gain and SMA SPA-180-30-01-SMA](http://www.fairviewmicrowave.com/12-18-ghz-medium-power-broadband-amplifier-spa-180-30-01-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.

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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
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Amplifier with 1 Watt, 33 dB Gain and SMA

DWG NO
SPA-180-30-01-SMA

CAGE CODE
3FKR5

CAD FILE 050914

SHEET

SCALE N/A

SIZE A

2233