

100 MHz to 12 GHz, Broadband Amplifier with 600 mW, 18 dB Gain and SMA

SPA-120-18-003-SMA is a broadband GaAs PHEMT MMIC-based 300 mW coaxial low noise amplifier, operating in the 0.5 to 12 GHz frequency range. The amplifier offers 25 dBm of P1dB and 32 dB small signal gain, with the excellent gain flatness of ± 1 dB, along with a 33 dBm of IP3 performance. This power amplifier requires only a single positive DC supply, is unconditionally stable, operates over the temperature range of -40°C to 75°C, and characterized by a light weight (25 g) and small size (1.2"x1.2"x0.4").

Electrical Specifications (TA = +25°C, DC Voltage = 12Volts, DC Current = 300mA)

Description	Min	Typ	Max	Unit
Frequency Range	0.1		12	GHz
Gain	16	18	20	dB
Gain Flatness		± 1	± 1.5	dB
Gain Variance at OTR*		± 1		dB
P1dB	+24	+25		dBm
Saturation Output Power	+27	+28		dBm
IP3	+28	+33		dBm
Reverse Isolation	30	40		dB
Noise Figure		3	5	dB
Input VSWR		1.6:1	1.8:1	
Output VSWR		1.8:1	2:1	
Operating DC Voltage	11	12	13	Volts
Operating DC Current	250	300	350	mA
Operating Temperature Range (OTR)	-40		+75	°C

*OTR= Base Plate Operating Temperature Range

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+13.5	Volts
RF input Power	+17	dBm
Operating Temperature (base-plate)	-45 to +75	°C
Storage Temperature	-55 to +125	°C



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



Features:

- 0.5 to 12 GHz Frequency Range
- P1dB: 25 dBm
- Psat: 28 dBm
- Small Signal Gain: 18 dB
- Gain Flatness: ± 1 dB
- Gain Variation Over the Temperature Range: ± 1 dB
- Output IP3: 33 dBm
- Noise Figure: 3 dB
- Reverse Isolation: 40 dB
- 50 Ohm Input and Output Matched
- -40 to +75°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Light Weight

Applications:

- Laboratory Applications
- R&D Labs
- Radar Systems
- Electronic Warfare
- Telecom Infrastructure
- Test Instrumentation
- Military & Space
- Communication Systems
- Satellite Communications
- Wireless Communications
- Unmanned Systems
- Microwave Radio Systems
- Power Amplifier
- Low Noise Amplifier
- General Purpose Amplification
- RF Front Ends

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Configuration

- Connector 1 SMA Female
- Connector 2 SMA Female

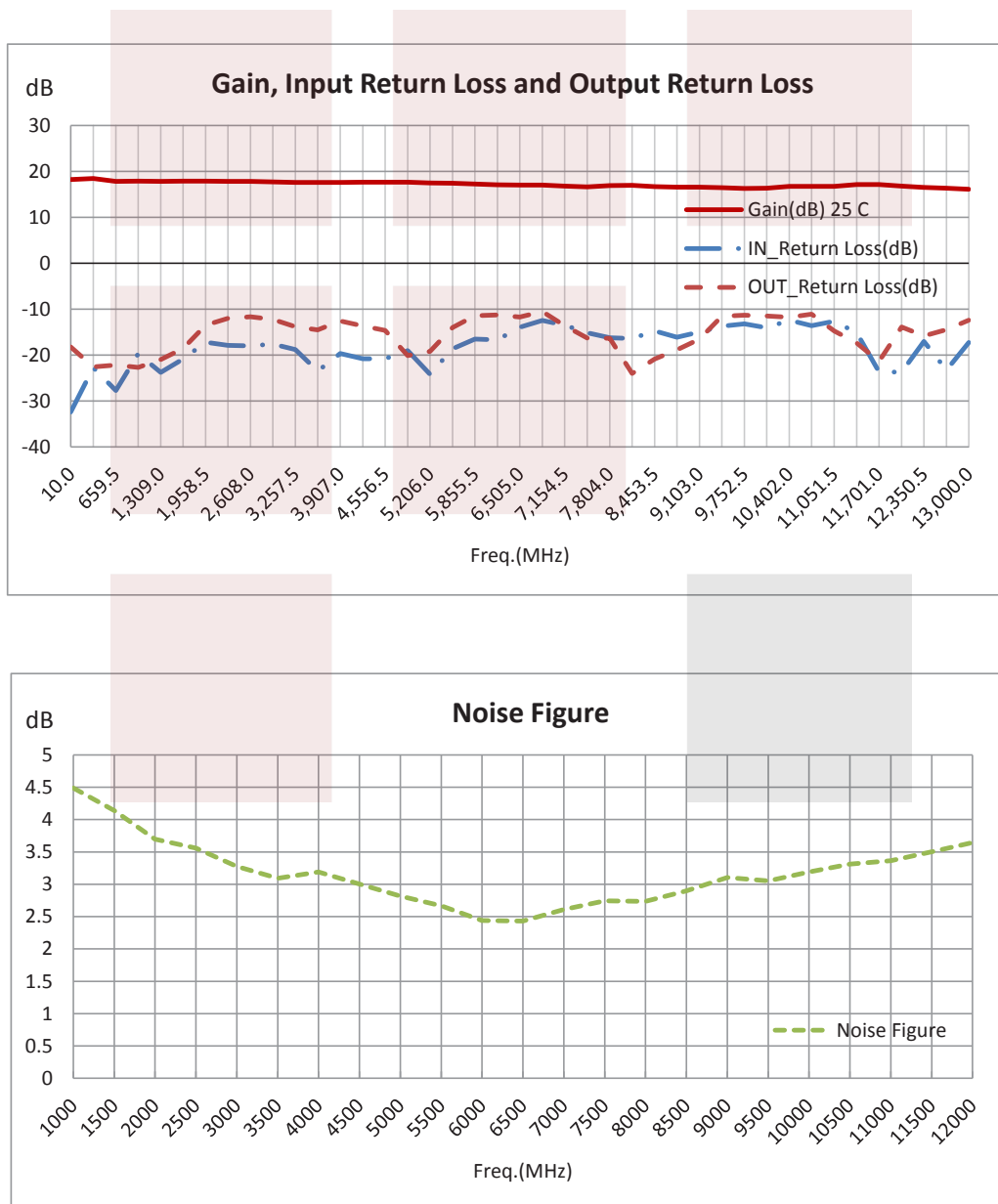
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

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



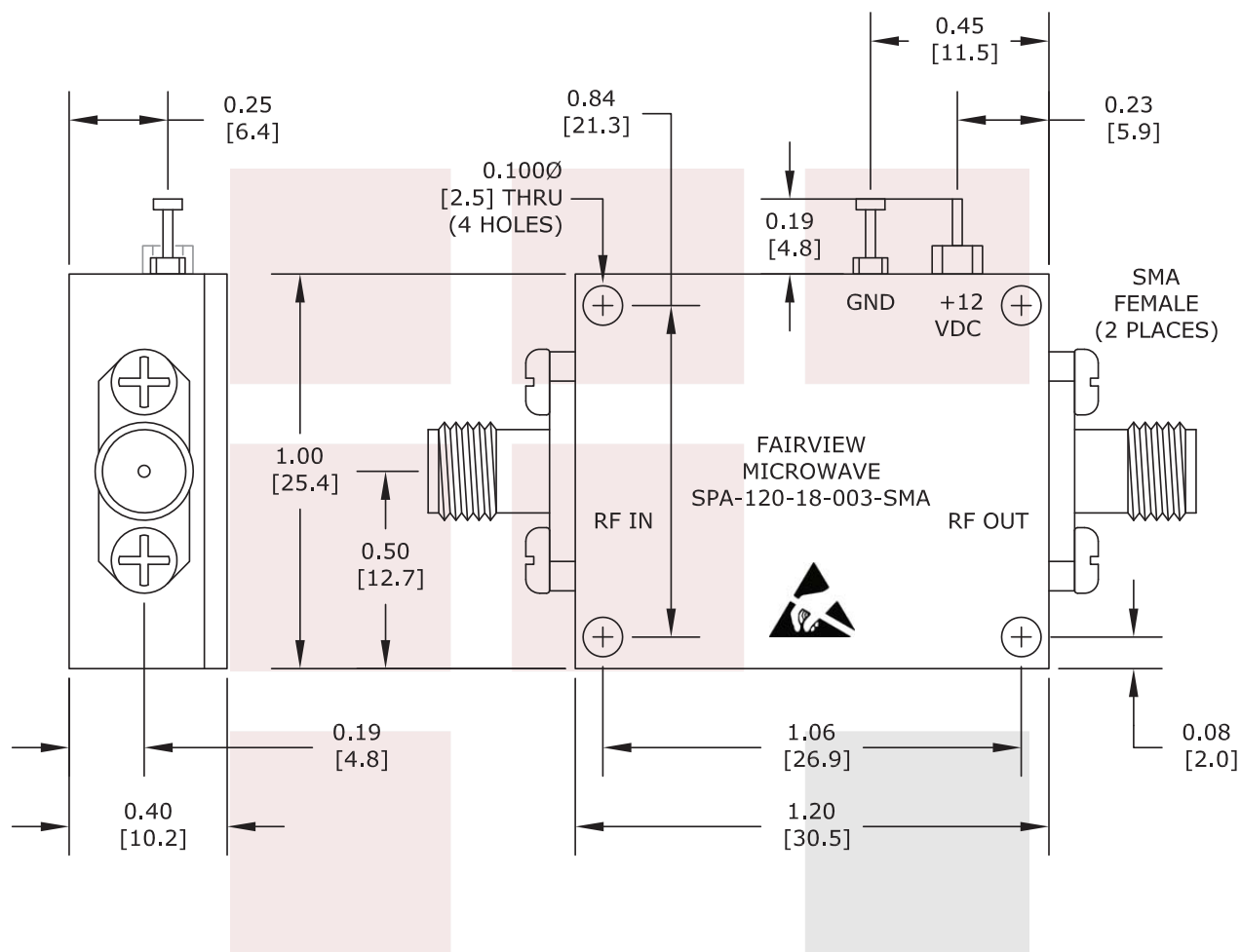
100 MHz to 12 GHz, Broadband Amplifier with 600 mW, 18 dB Gain and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [100 MHz to 12 GHz, Broadband Amplifier with 600 mW, 18 dB Gain and SMA SPA-120-18-003-SMA](#)

URL: <http://www.fairviewmicrowave.com/100-mhz-12-ghz-broadband-amplifier-spa-120-18-003-sma-p.aspx>

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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mW, 18 dB Gain and SMA

DWG NO SPA-120-18-003-SMA		CAGE CODE 3FKR5		
CAD FILE 071414	SHEET	SCALE N/A	SIZE A	2233