

## 110 MHz to 6 GHz, Medium Power Broadband Amplifier with 1 Watt, 12.5 dB Gain and SMA

SDA-060-12-01-SMA is a broadband multi-octave GaAs PHEMT MMIC-based coaxial power amplifier, operating in the 110 MHz to 6 GHz frequency range. The amplifier offers +30 dBm of saturated output power, +27 dBm of minimum P1dB and 32 dB small signal gain, along with the excellent gain flatness of  $\pm 1.0$  dB max and the outstanding IP3 performance of +38 dBm. This performance is achieved through the use of advanced GaAs PHEMT circuitry. This power amplifier requires only a single positive DC supply, is unconditionally stable, and operates over the temperature range of -40°C to +75°C, and characterized by a light weight (21 g) and small size (1.55"x1.37"x0.55").

### Electrical Specifications (TA= 25°C, VDC1 = 12 Vdc)

Description	Min	Typ	Max	Unit
Frequency Range	0.11		6	GHz
Gain	12	12.5		dB
Gain Flatness		$\pm 0.5$	$\pm 0.9$	dB
Gain Variation over Temp.		0.005	0.01	dB/°C
P1dB	+27	+27.5		dBm
Saturation Output Power	+30	+31.5		dBm
IP3		+38		dBm
Noise Figure		6.5		dB
Input VSWR		1.29:1	1.67:1	
Output VSWR		1.29:1	1.67:1	
Operating DC Voltage 1		12		Volts
Operating DC Current		300		mA
Operating Temperature Range (OTR)	-40		+85	°C

### Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+14	Volts
RF input Power	+20	dBm
Operating Temperature (base-plate)	-40 to +85	°C
Storage Temperature	-55 to +150	°C



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



### Features:

- 110 MHz to 6 GHz Frequency Range
- Psat: +30 dBm min
- P1dB: +27 dBm min
- Small Signal Gain: 12 dB min @6GHz
- Gain Flatness:  $\pm 0.5$  dB
- Gain Variation Over Temperature: 0.005 dB/°C
- High Output IP3: +38 dBm
- Noise Figure: 6.5 dB
- 50 Ohm Input and Output Matched
- -40 to +85°C Operating Temperature
- Unconditionally Stable
- Single DC Positive Supply
- Built-in DC Voltage Regulator
- Small Size & Weight

### 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
- General Purpose Amplification
- RF Front Ends
- Fiber Optic Interface

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Mechanical Specifications

Size	
Length	1.55 in [39.37 mm]
Width	1.37 in [34.8 mm]
Height	0.55 in [13.97 mm]
Weight	0.0855 lbs [38.78 g]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

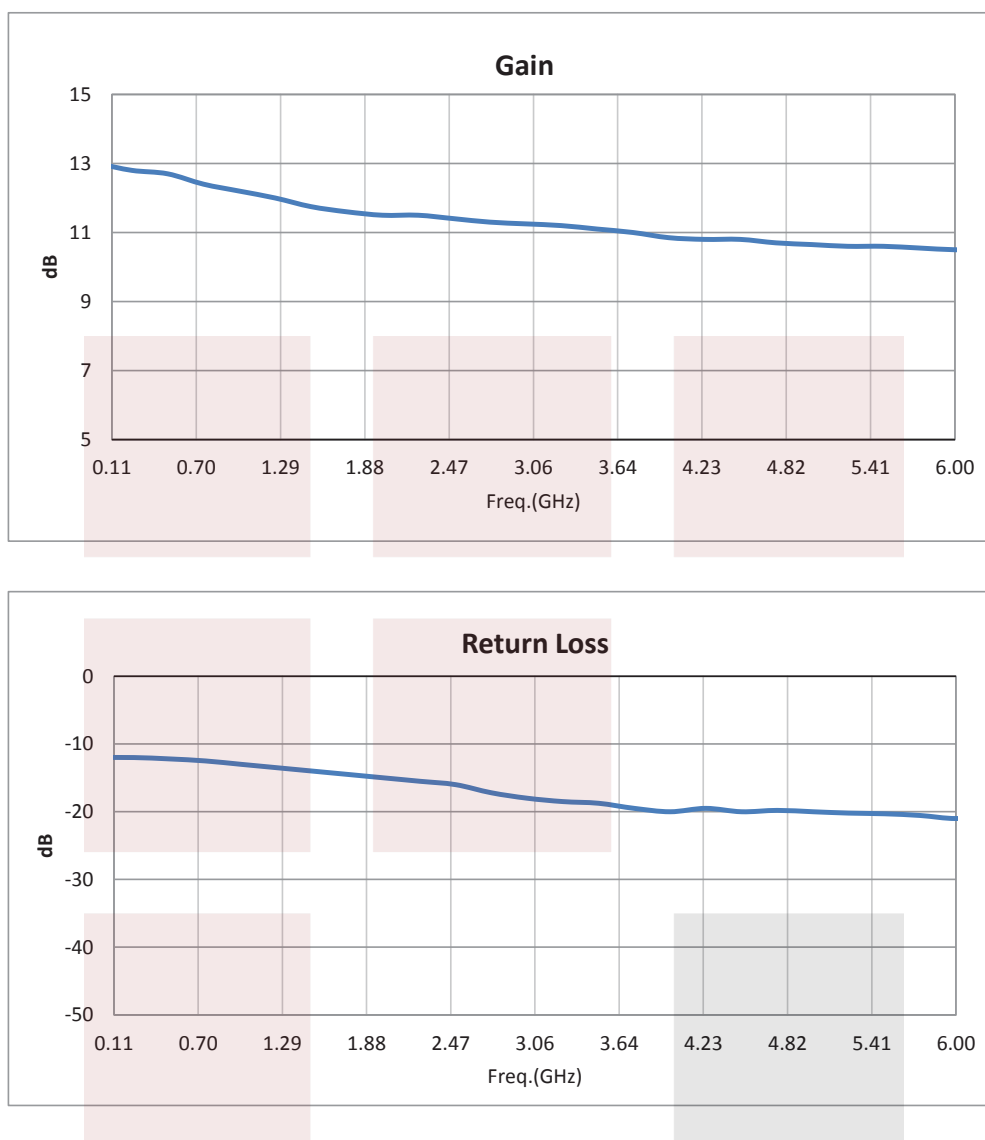
Temperature	
Operating Range	-40 to +85 deg C
Storage Range	-55 to +150 deg C

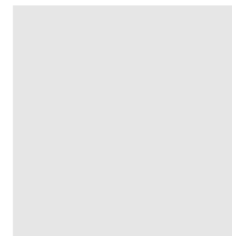
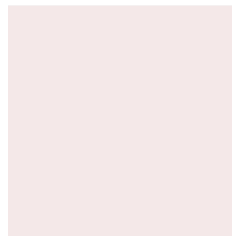
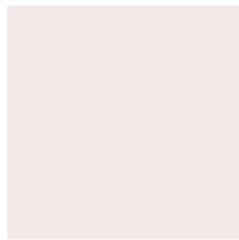
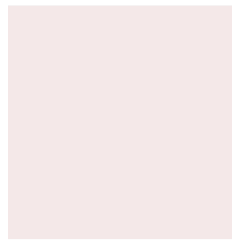
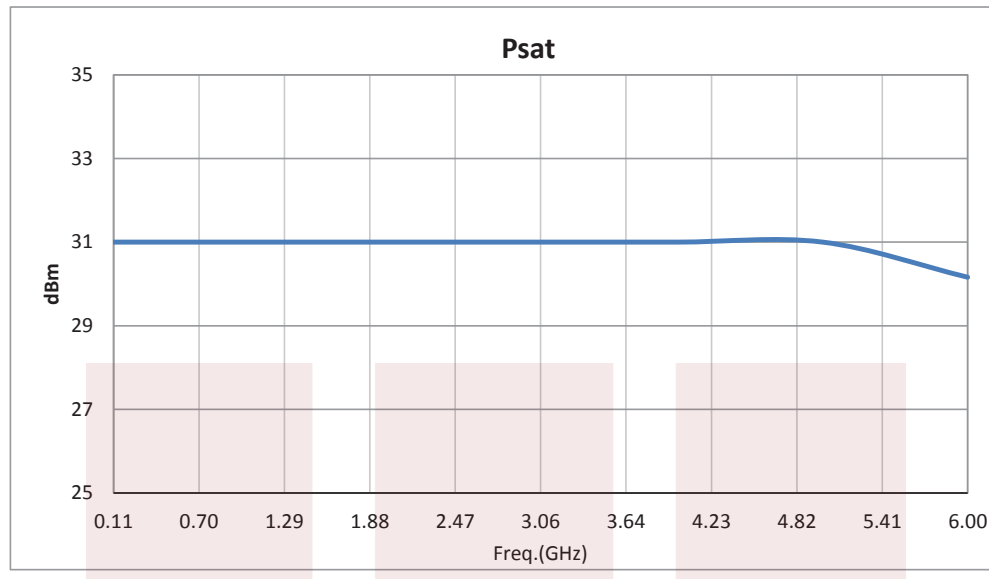
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:			

**Typical Performance Data**



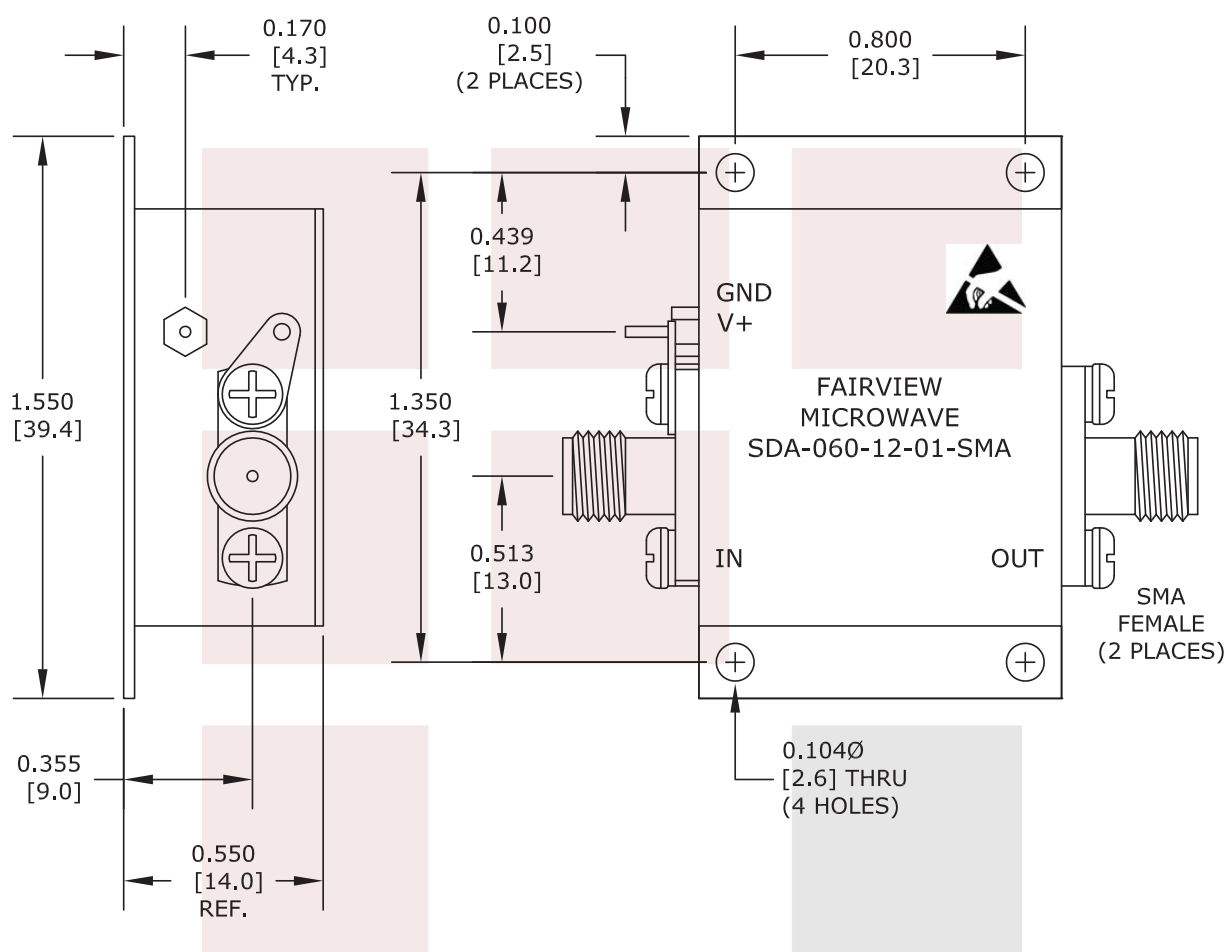


110 MHz to 6 GHz, Medium Power Broadband Amplifier with 1 Watt, 12.5 dB Gain and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [110 MHz to 6 GHz, Medium Power Broadband Amplifier with 1 Watt, 12.5 dB Gain and SMA SDA-060-12-01-SMA](#)

URL: <https://www.fairviewmicrowave.com/dc-6-ghz-broadband-amplifier-sda-060-12-01-sma-p.aspx>

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**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		<b>NOTES:</b> 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].			
<b>TITLE</b> 110 MHz to 6 GHz, Medium Power Broadband Amplifier with 1 Watt, 12.5 dB Gain and SMA		<b>DWG NO</b> SDA-060-12-01-SMA		<b>CAGE CODE</b> 3FKR5	
<b>CAD FILE</b>	052114	<b>SHEET</b>		<b>SCALE</b>	N/A
				<b>SIZE</b>	A
					2233