

1.2 dB NF, 1.8 GHz to 4.2 GHz, Low Noise Broadband Amplifier with 15.5 dBm, 26 dB Gain and SMA

FMAM3276 is a low noise amplifier that operates across a frequency range from 1.8 GHz to 4.2 GHz. The design utilizes GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance includes 26 dB small signal gain, 1.2 dB noise figure, up to +15.5 dBm of output power at P1dB and +26 dBm output IP3, while using a +12V single DC supply. The design exhibits a very flat gain response across a wide frequency band.

Input/output ports are matched for 50 ohms and are DC blocked. The design also incorporates integrated bias sequencing circuitry and voltage regulators to allow for flexible biasing for the positive voltage supply. The drop-in package is hermetically sealed with field replaceable SMA connectors and has an operating temperature range of -55°C to +85°C. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

This broadband low noise amplifier module is part of Fairview Microwave's expanding line of amplifier offerings. These modules offer very wide frequency range coverage and outstanding electrical performance in the band.

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

Description	Min	Typ	Max	Unit
Frequency Range	1.8		4.2	GHz
Gain		26		dB
P1dB		+15.5		dBm
Noise Figure		1.2		dB
Operating DC Voltage 1		12		Volts
Operating Temperature Range (OTR)	-55		+85	°C



Features:

- LNA Module
- Wide frequency band
- GaAs PHEMT MMIC Technology
- Gain 26 dB Typ
- High Output IP3 +26 dBm
- Output P1dB up to +15.5 dBm typical
- Regulated Supply and Bias Sequencing
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable SMA Connectors
- -55°C to +85°C Operating Temperature

Applications:

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

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Performance by Frequency

Description	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		1.8 - 4.2			2.0 - 3.8		GHz
Gain	23	26		23	26		dB
Gain Variation Over Temperature		0.03	0.05		0.03	0.05	dB/ °C
Noise Figure		1.2	2.5		1.2	2.0	dB
Input Return Loss		13			13		dB
Output Return Loss		13			13		dB
Output Power For 1 dB Compression (P1dB)	12.5	15.5		12.5	15.5		dBm
Saturated Output Power (Psat)		17.5			17.5		dBm
Output Third Order Intercept (IP3)		26			26		dBm
Supply Current		105	140		105	140	mA

Mechanical Specifications
Size

Length 1.086 in [27.58 mm]

Width 0.85 in [21.59 mm]

Height 0.34 in [8.64 mm]

Weight 0.0896 lbs [40.64 g]

Connector Option Field Replaceable

Input Connector SMA Female

Output Connector SMA Female

Environmental Specifications
Temperature

Operating Range -55 to +85 deg C

Storage Range -65 to +150 deg C

Temperature Cycling MIL-STD-883, Method 101C, Cond B

 Hermetic Seal Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10⁻⁸ atm cc

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

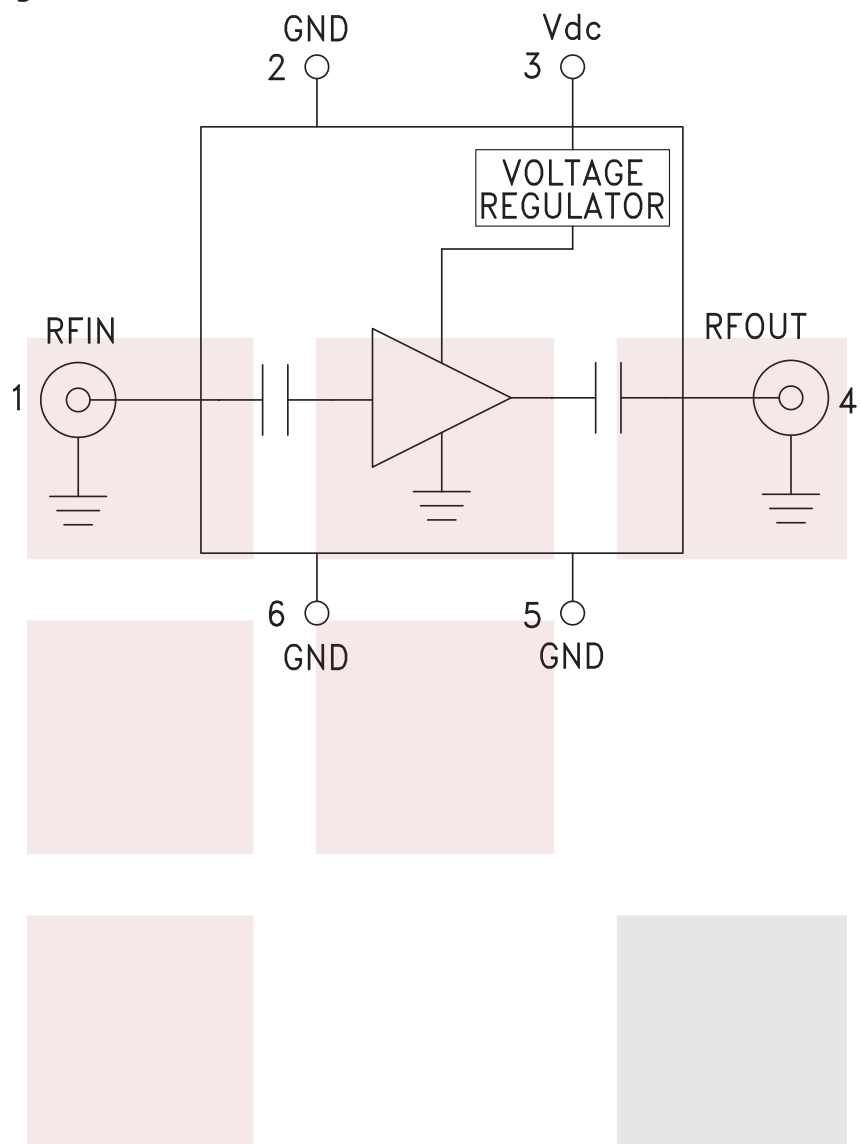
RoHS Compliant Yes

Plotted and Other Data

Notes:

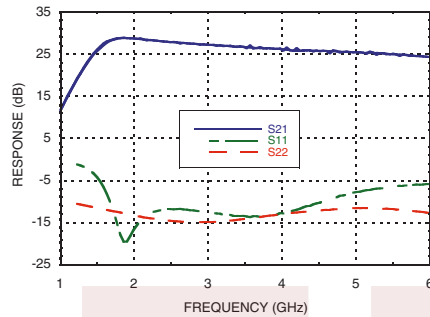
- Values at 25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

Functional Block Diagram

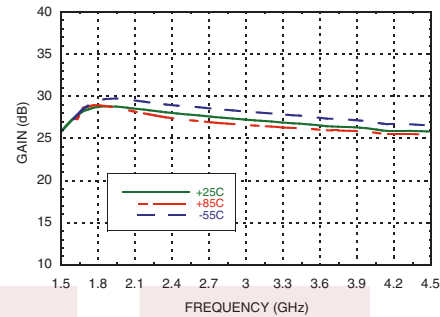


Typical Performance Data

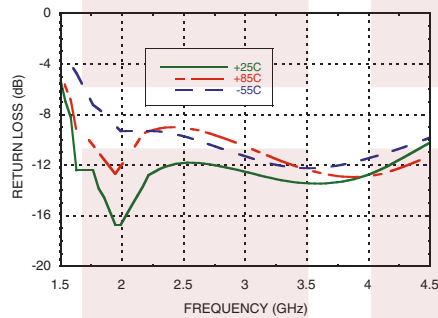
Broadband Gain & Return Loss



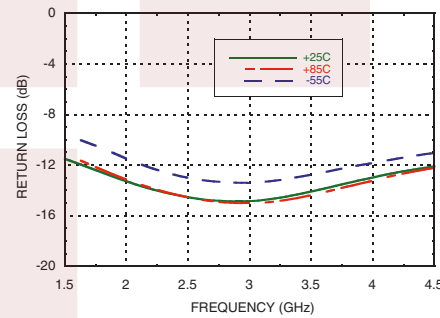
Gain vs. Temperature



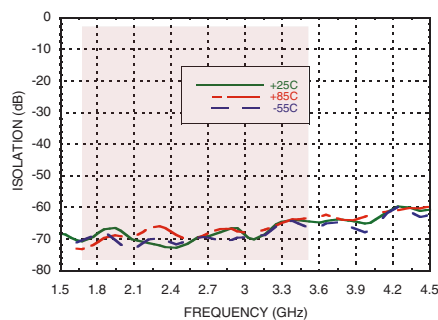
Input Return Loss vs. Temperature



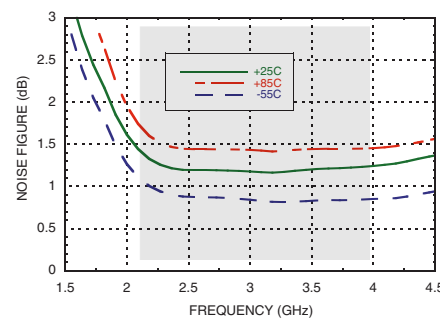
Output Return Loss vs. Temperature



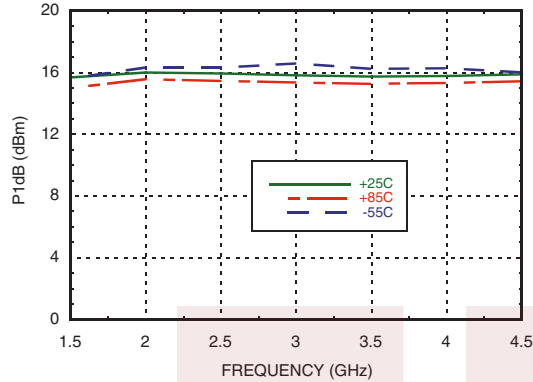
Reverse Isolation vs. Temperature



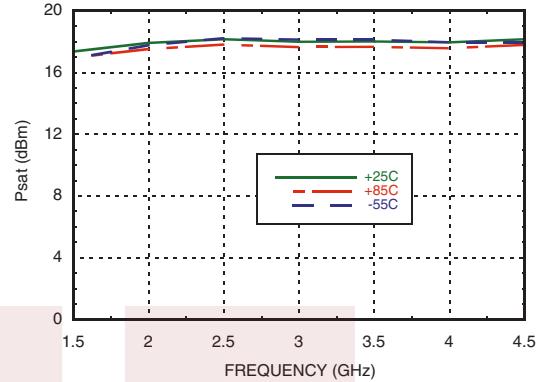
Noise Figure vs. Temperature



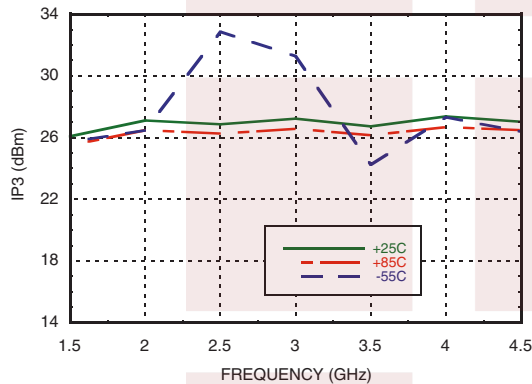
Output P1dB vs. Temperature



Output Psat vs. Temperature



Output IP3 vs. Temperature

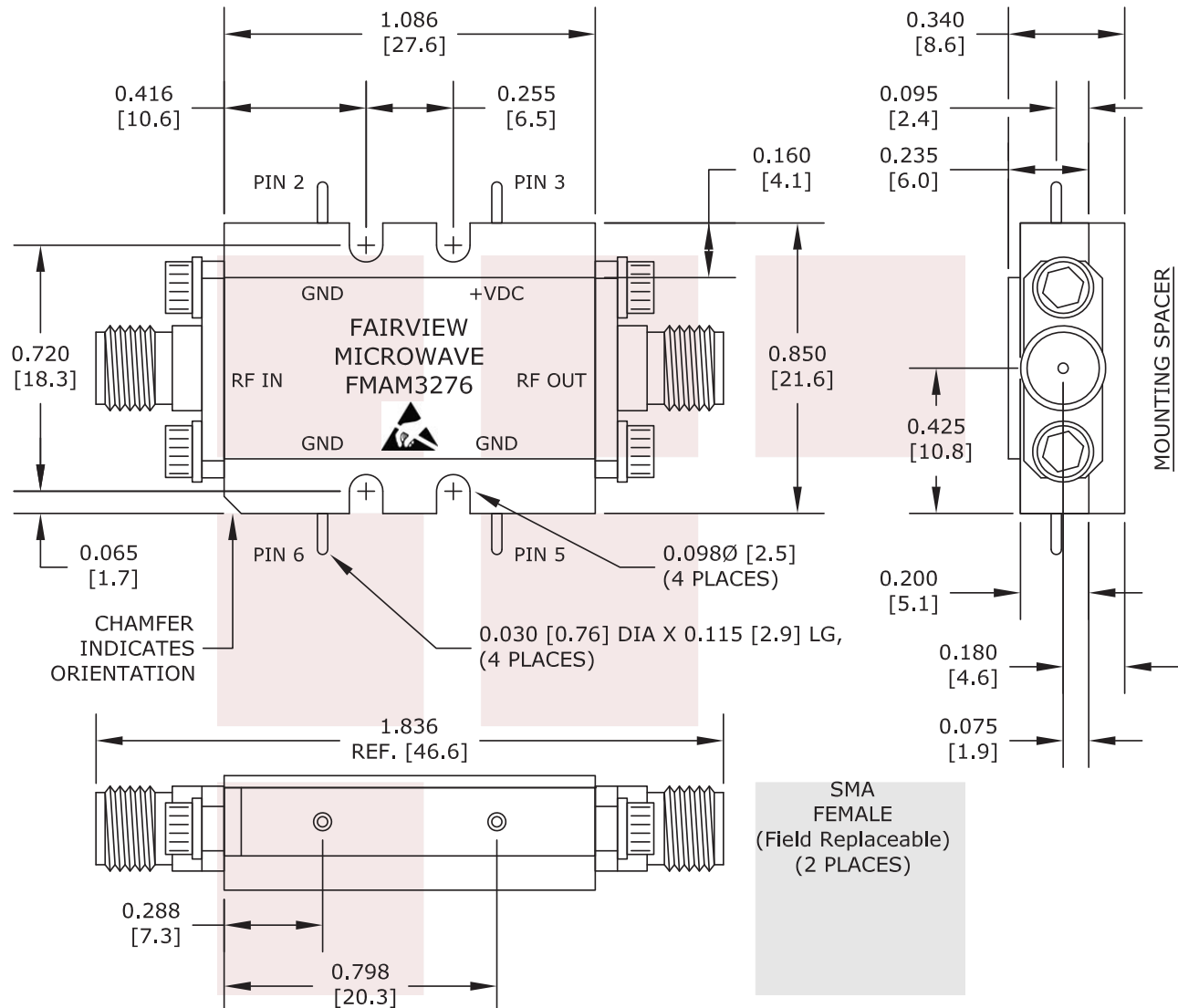


1.2 dB NF, 1.8 GHz to 4.2 GHz, Low Noise Broadband Amplifier with 15.5 dBm, 26 dB Gain and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [1.2 dB NF, 1.8 GHz to 4.2 GHz, Low Noise Broadband Amplifier with 15.5 dBm, 26 dB Gain and SMA FMAM3276](http://www.fairviewmicrowave.com/1.8-4.2-ghz-low-noise-broadband-amplifier-fmam3276-p.aspx)

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TITLE
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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].

DWG NO

FMAM3276

CAGE CODE

3FKR5

CAD FILE

050216

SHEET

SCALE

N/A

SIZE

A 2233