

3 dB NF, 17 GHz to 27 GHz, Low Noise Broadband Amplifier with 18 dBm, 19 dB Gain, 24 dBm IP3 and 2.92mm

The FMAM3274 low noise amplifier operates across a wide frequency range from 17 GHz to 27 GHz. The design utilizes GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance includes 19 dB small signal gain, 2.75 dB noise figure, up to +13.5 dBm of output power at P1dB and +24 dBm output IP3, while using a single DC supply between +8VDC and +16 VDC.

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 positive voltage supply.

The drop-in package is hermetically sealed with field replaceable 2.92mm 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.

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

Description	Min	Typ	Max	Unit
Frequency Range	17		27	GHz
Gain	14.5	19		dB
Gain Variation over Temp.		0.015	0.03	dB/°C
P1dB	+10.5	+13.5		dBm
Saturation Output Power		+18		dBm
IP3		+24		dBm
Noise Figure		3	4	dB
Input Return Loss		14		dB
Output Return Loss		10		dB
Operating DC Voltage 1		12		Volts
Operating DC Current		96		mA
Operating Temperature Range (OTR)	-55		+85	°C



Features:

- LNA Module
- Extremely wide frequency band
- GaAs PHEMT MMIC Technology
- Gain 19 dB
- High Output IP3 +24 dBm
- Output P1dB up to +13.5 dBm typical
- Regulated Supply and Bias Sequencing
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable 2.92mm 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		17 - 22			22 - 27		GHz
Gain	16	19		14.5	17.5		dB
Gain Variation Over Temperature		0.015	0.025		0.015	0.025	dB/ °C
Noise Figure		2.75	3.25		3	4	dB
Input Return Loss		14			14		dB
Output Return Loss		10			13		dB
Output Power For 1 dB Compression (P1dB)	10.5	13.5		12	15		dBm
Saturated Output Power (Psat)		18			18.5		dBm
Output Third Order Intercept (IP3)		24			26		dBm
Supply Current		96			96		mA

Mechanical Specifications

Size

Length	0.64 in [16.26 mm]
Width	0.59 in [14.99 mm]
Height	0.29 in [7.37 mm]
Weight	0.058 lbs [26.31 g]
Connector Option	Field Replaceable
Input Connector	2.92mm Female
Output Connector	2.92mm 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

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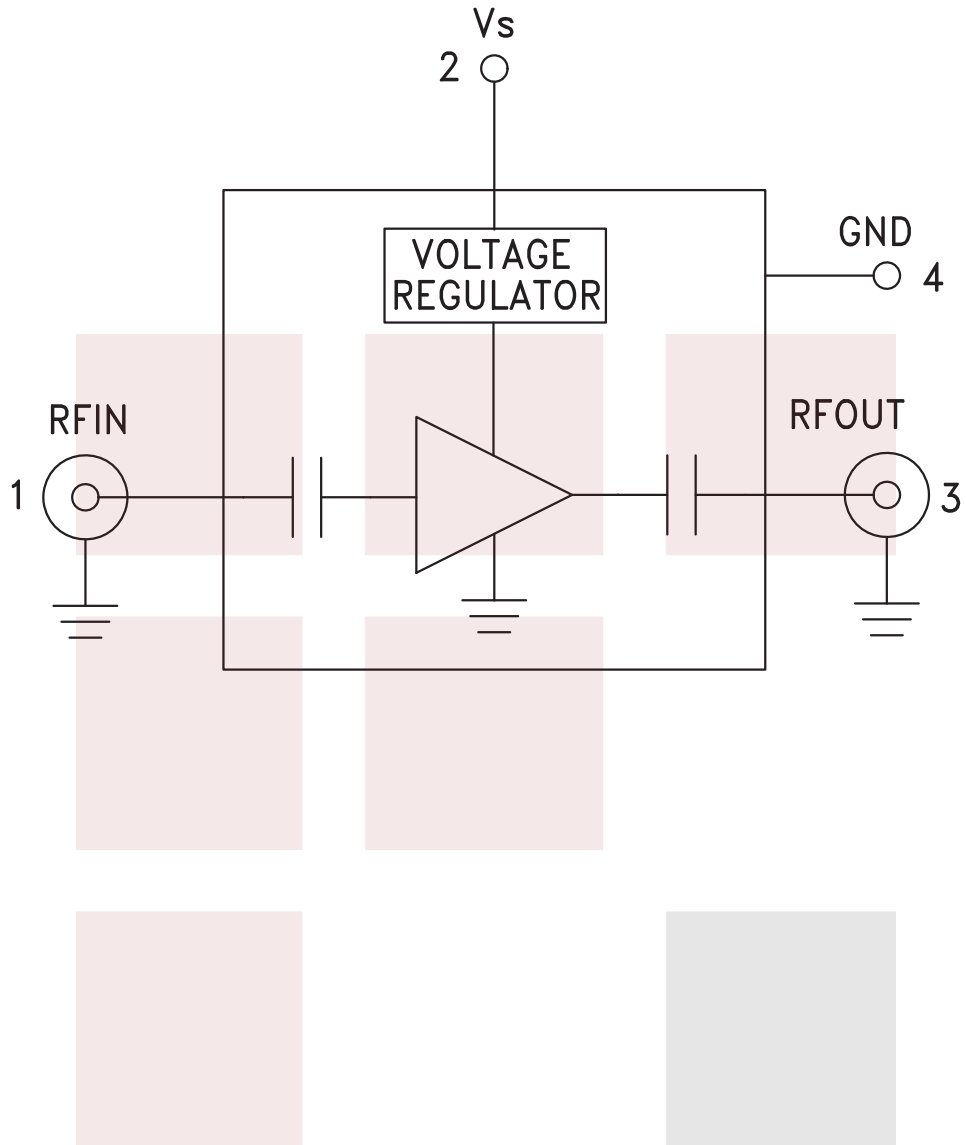


Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

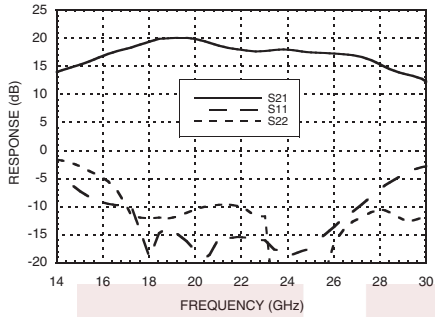
Notes:

Functional Block Diagram

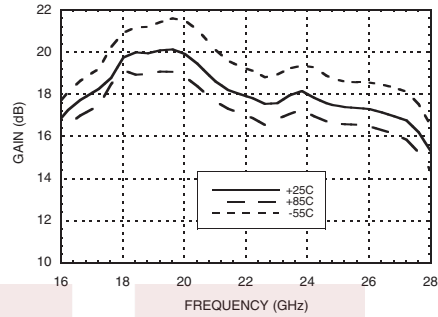


Typical Performance Data

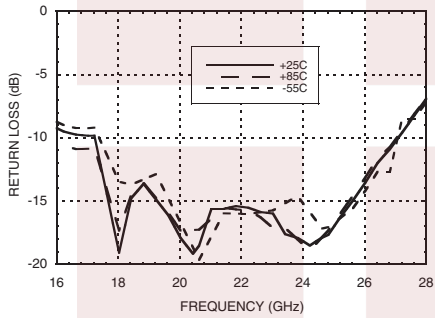
Gain & Return Loss



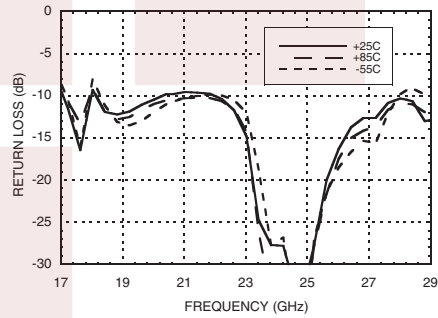
Gain vs. Temperature



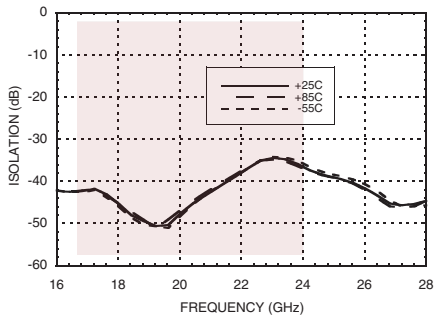
Input Return Loss vs. Temperature



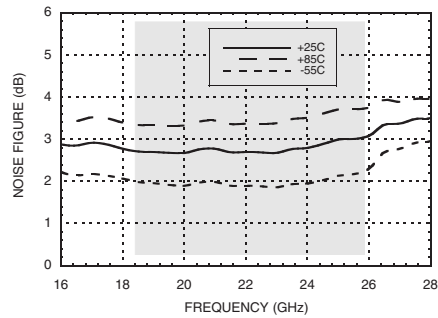
Output Return Loss vs. Temperature



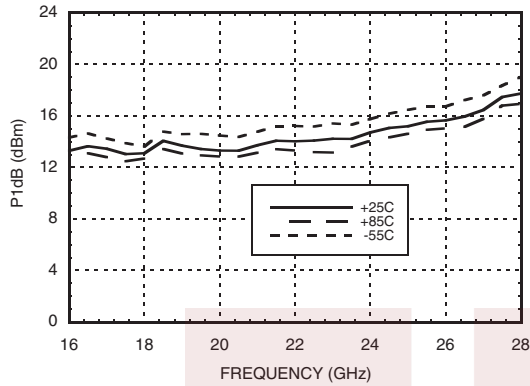
Reverse Isolation vs. Temperature



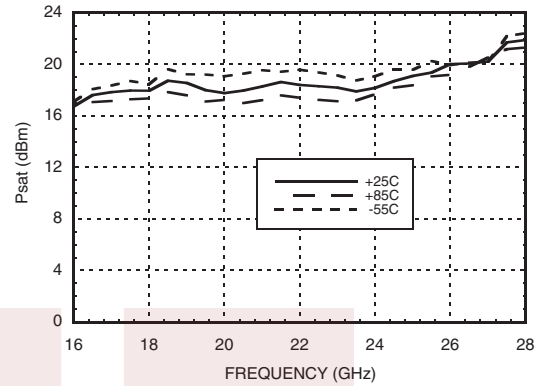
Noise Figure vs. Temperature



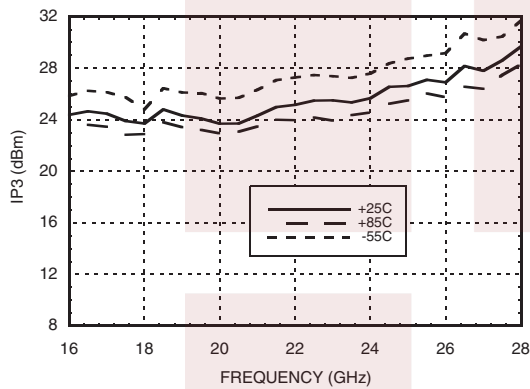
P1dB vs. Temperature



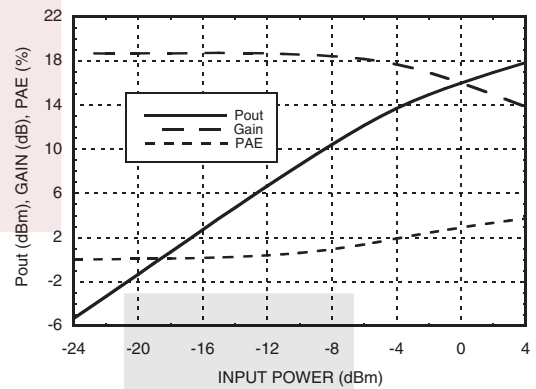
Psat vs. Temperature



Output IP3 vs. Temperature



Power Compression @ 21 GHz

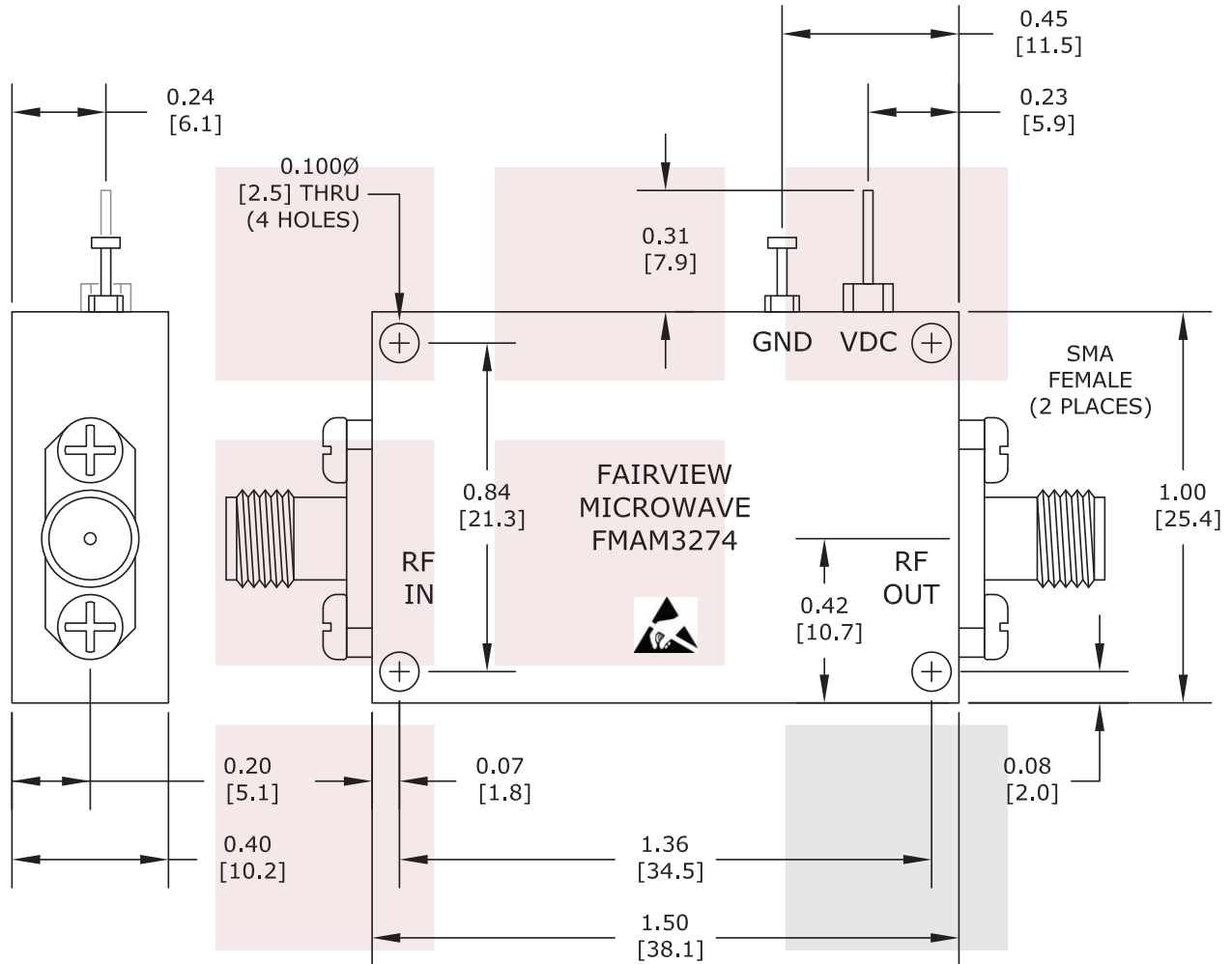


3 dB NF, 17 GHz to 27 GHz, Low Noise Broadband Amplifier with 18 dBm, 19 dB Gain, 24 dBm IP3 and 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [3 dB NF, 17 GHz to 27 GHz, Low Noise Broadband Amplifier with 18 dBm, 19 dB Gain, 24 dBm IP3 and 2.92mm FMAM3274](https://www.fairviewmicrowave.com/17-27-ghz-low-noise-broadband-amplifier-fmam3274-p.aspx)

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

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TITLE 3 dB NF, 17 GHz to 27 GHz, Low Noise Broadband Amplifier with 18 dBm, 19 dB Gain, 24 dBm IP3 and 2.92mm		DWG NO FMAM3274		CAGE CODE 3FKR5	
CAD FILE 011615 SHEET		SCALE N/A		SIZE A 2233	