Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMAM4030
DATA SHEET

2 GHz to 20 GHz, Broadband Amplifier with 26 dBm, 31 dB Gain and SMA

FMAM4030 distributed amplifier operates across a wide frequency range from 2 GHz to 20 GHz. The design utilizes GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance at 2 GHz to 6 GHz includes 31 dB of small signal gain, 3.0 dB noise figure, +33 dBm output IP3, and up to +27.5 dBm of Saturated Power. The design exhibits a very flat gain response across a wide frequency band. Input/output ports are matched for 50 ohms and are AC coupled.

The design also incorporates integrated bias sequencing circuitry and voltage regulators to allow for flexible biasing for both the negative and positive voltage supplies. The drop-in package is hermetically sealed with field replaceable SMA connectors. 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.

Features:

- Driver Amplifier
- Wide Frequency Band
- GaAs PHEMT MMIC Technology
- Spurious-Free Operation
- Gain 31 dB
- High Output IP3 +33 dBm
- Saturated Output Power up to + 27.5 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

Electrical Specifications (TA= 25°C, VDC1 = 15 Vdc, VDC2 = -10 Vdc)

Description	Min	Typ	Max	Unit
Frequency Range	2		20	GHz
Gain		31		dB
P1dB		+26		dBm
Noise Figure		3		dB
Operating DC Voltage 1		15		Volts
Operating DC Voltage 2		-10		Volts
Operating Temperature Range (OTR)	-55		+85	°C

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Performance by Frequency

Description	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		2 - 6			6 - 12			12 - 16			16 - 20		GHz
Gain	28	31		26	29		24	27		19	22		dB
Gain Flatness		±0.25			±0.75			±1.0			±2.0		dB
Gain Variation Over Temperature		0.03	0.04		0.03	0.04		0.03	0.04		0.03	0.04	dB/ °C
Noise Figure		3	5		2.5	3.5		3	4		3.5	5	dB
Input Return Loss		15			15			13			10		dB
Output Return Loss		15			15			10			8		dB
Output Power for 1 dB Compression (P1dB)	+23	+26		+22.5	+25.5		+20	+24		+18	+21		dBm
Saturated Output Power (Psat)		+27.5			+27			+25			+23		dBm
Output Third Order Intercept (IP3)		+33			+30			+27			+24		dBm
Positive Supply Current (+IDC)		400	450		400	450		400	450		400	450	mA
Negative Supply Current (-IDC)		3.2	5		3.2	5		3.2	5		3.2	5	mA

Mechanical Specifications

Size

Length	0.86 in [21.84 mm]
Width	0.7 in [17.78 mm]
Height	0.29 in [7.37 mm]
Weight	0.0595 lbs [26.99 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
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

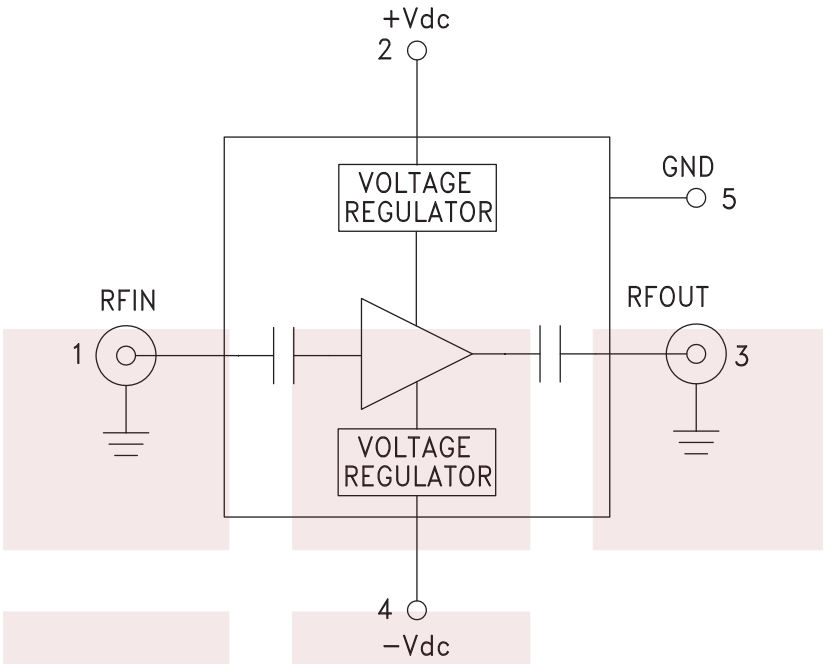
Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

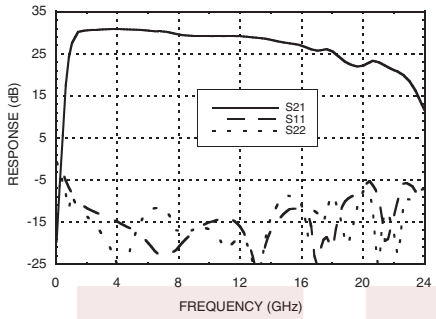
- Values at 25 °C, sea level

Functional Block Diagram

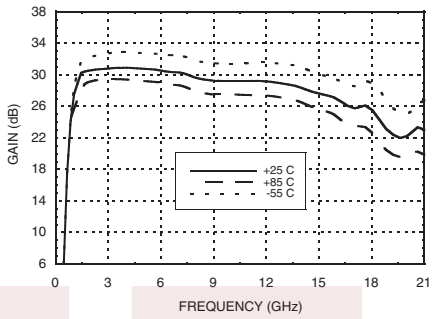


Typical Performance Data

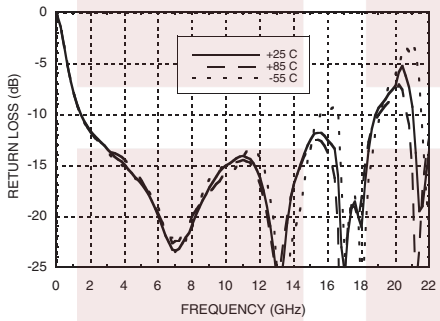
Gain & Return Loss



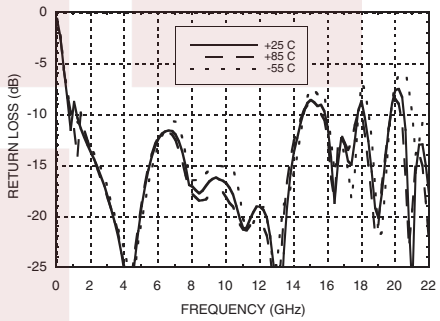
Gain vs. Temperature



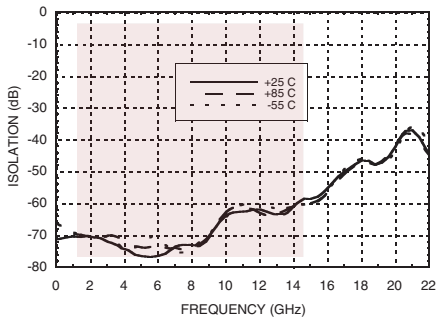
Input Return Loss vs. Temperature



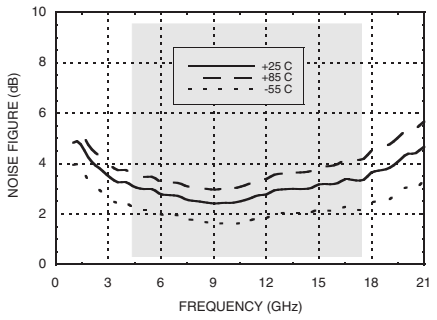
Output Return Loss vs. Temperature



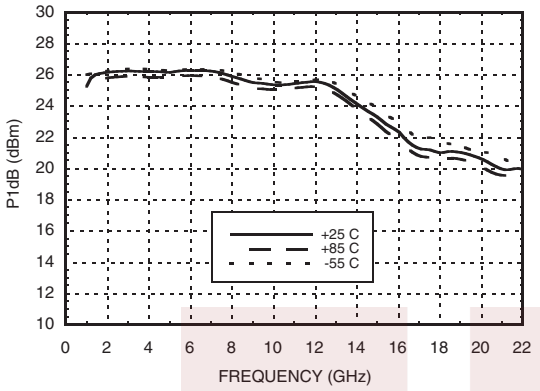
Reverse Isolation vs. Temperature



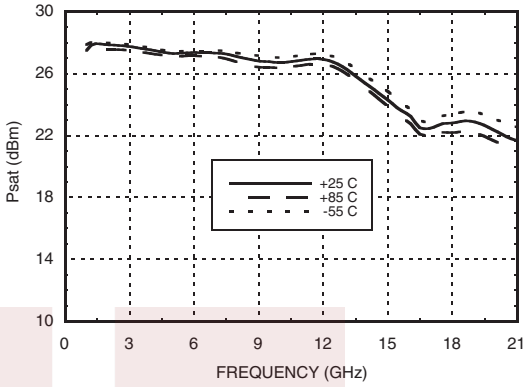
Noise Figure vs. Temperature



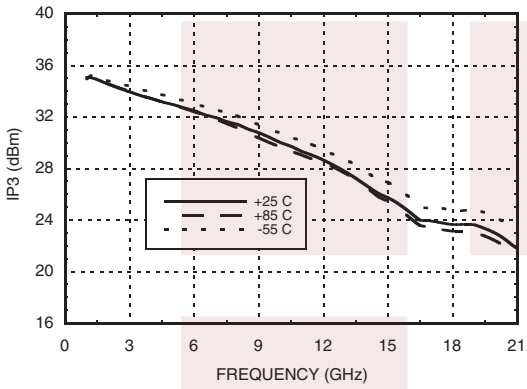
P1dB vs. Temperature



Psat vs. Temperature



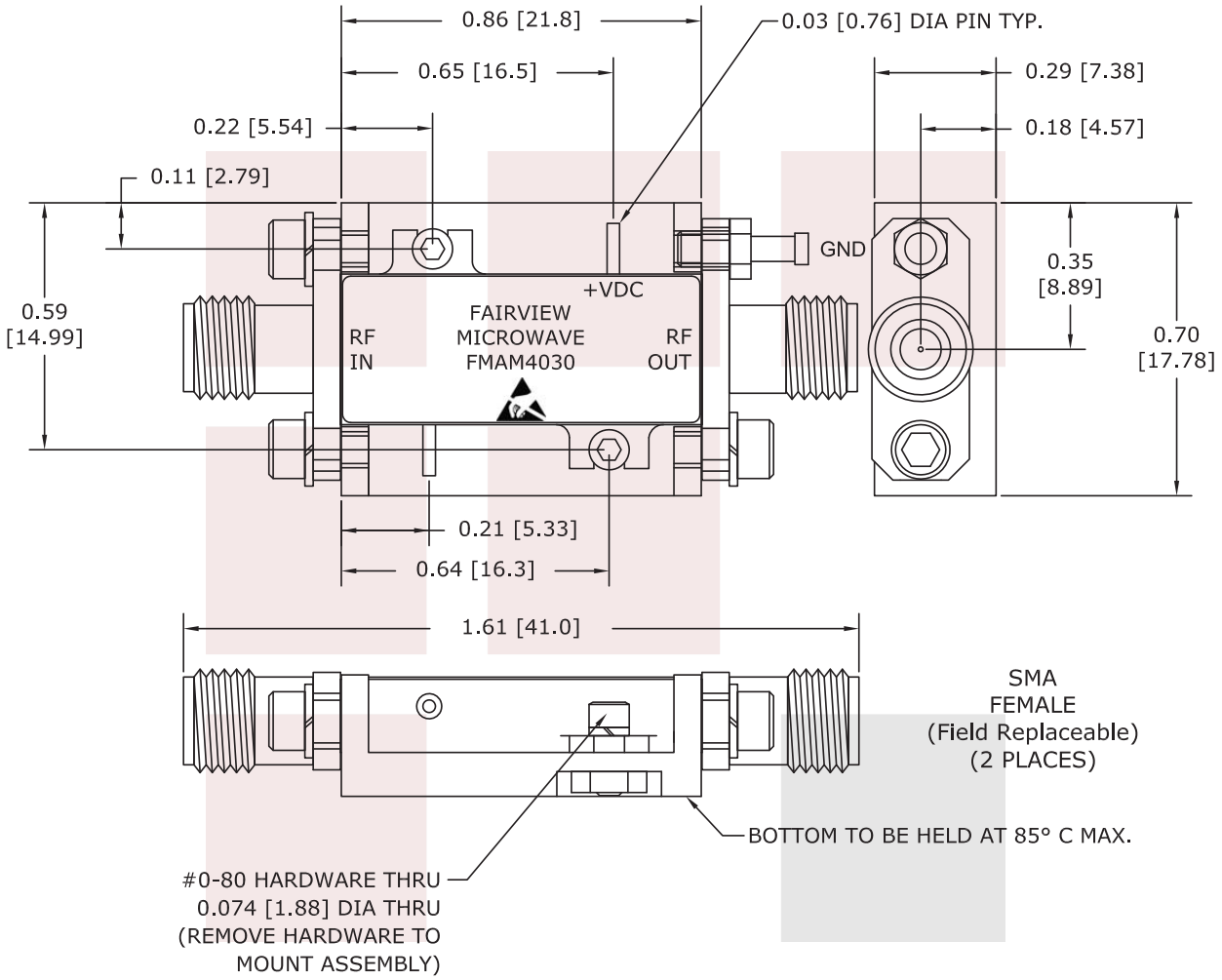
Output IP3 vs. Temperature



2 GHz to 20 GHz, Broadband Amplifier with 26 dBm, 31 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: 2 GHz to 20 GHz, Broadband Amplifier with 26 dBm, 31 dB Gain and SMA FMAM4030

URL: https://www.fairviewmicrowave.com/2-20-ghz-broadband-amplifier-fmam4030-p.aspx



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

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TITLE 2 GHz to 20 GHz, Broadband Amplifier with 26 dBm, 31 dB Gain and SMA	DWG NO FMAM4030 / CAGE CODE 3FKR5
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