Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMAM3036
DATA SHEET

10 MHz to 15 GHz, Broadband Amplifier with 600 mW, 12 dB Gain and SMA

FMAM3036 is a Broadband Amplifier that operates across an extremely wide frequency band from 0.01 to 15 GHz. The design utilizes GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance includes 12 dB of small signal gain, +37 dBm output IP3, and +28 dBm of P1dB. The design exhibits a very flat gain response across the entire 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 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:

- Wideband Power Amplifier
- Extremely Wide Frequency Band
- GaAs PHEMT MMIC Technology
- Gain 12 dB typ
- High Output IP3 +37 dBm
- P1dB +28 dBm
- Regulated Supply and Bias Sequencing
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable SMA Connectors
- 0°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 = 14 Vdc, VDC2 = -8 Vdc)

Description	Min	Typ	Max	Unit
Frequency Range	0.01		15	GHz
Gain		12		dB
P1dB		+28		dBm
Noise Figure		4.5		dB
Operating DC Voltage 1		14		Volts
Operating DC Voltage 2		-8		Volts
Operating Temperature Range (OTR)	0		+85	°C

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Performance by Frequency

Description	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		0.5 - 6.0			6.0 - 12.0			12.0 - 15.0		GHz
Gain	9.5	12.5		9	12		8	11		dB
Gain Flatness		±0.3			±0.3			±0.6		dB
Gain Variation Over Temperature		0.02			0.02			0.02		dB/ °C
Noise Figure		4.5			4.5			7		dB
Input Return Loss		22			11			4		dB
Output Return Loss		13			12			10		dB
Output Power For 1 dB Compression (P1dB)	25	28		23	26		23	26		dBm
Saturated Output Power (Psat)		29			27			28		dBm
Output Third Order Intercept (IP3)		36			34			32		dBm
Positive Supply Current (+Idc)		360			360			360		mA
Negative Supply Current (-Idc)		-5.5			-5.5			-5.5		mA

Mechanical Specifications

Size

Length	1.086 in [27.58 mm]
Width	0.722 in [18.34 mm]
Height	0.375 in [9.53 mm]
Weight	0.1015 lbs [46.04 g]
Connector Option	Field Replaceable
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	0 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.

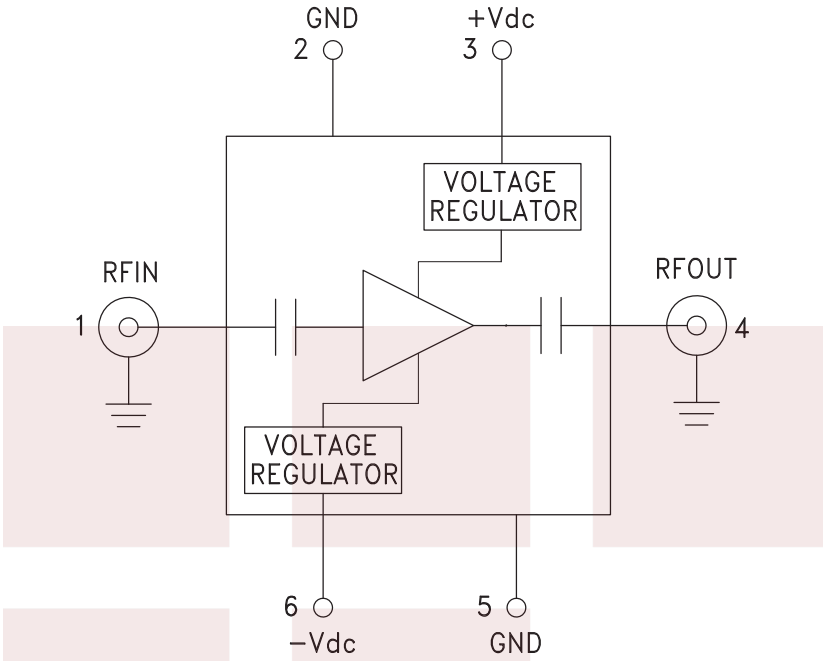
Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

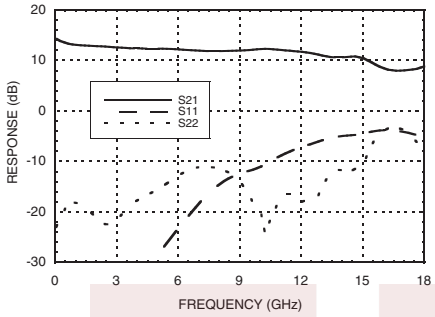
- Values at 25 °C, sea level

Functional Block Diagram

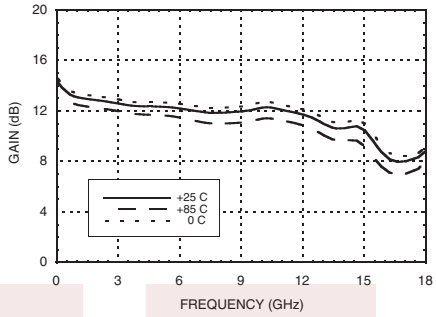


Typical Performance Data

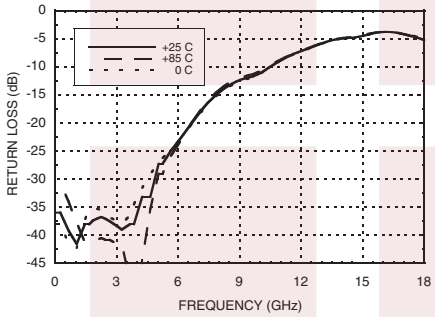
Gain & Return Loss



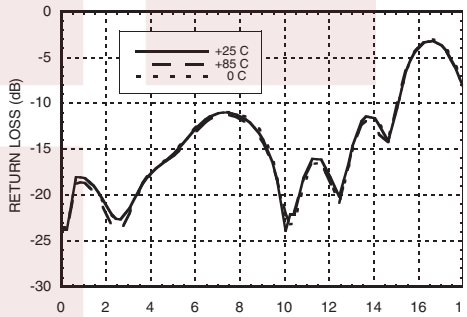
Gain vs. Temperature



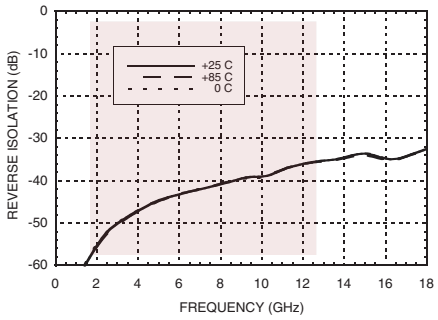
Input Return Loss vs. Temperature



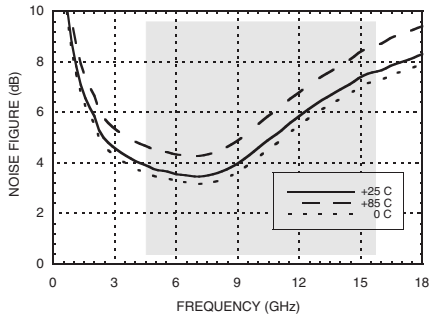
Output Return Loss vs. Temperature



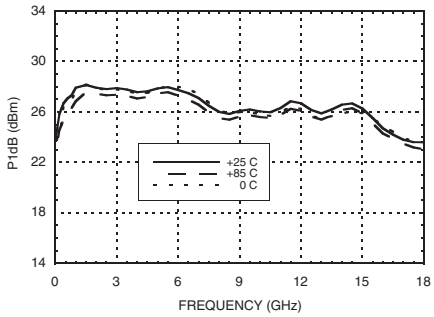
Reverse Isolation vs. Temperature



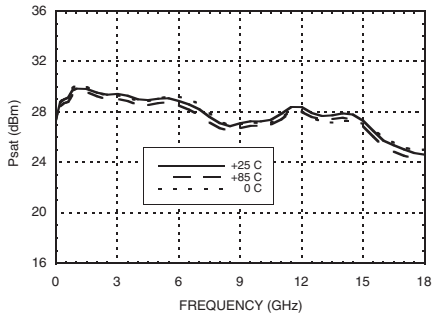
Noise Figure vs. Temperature



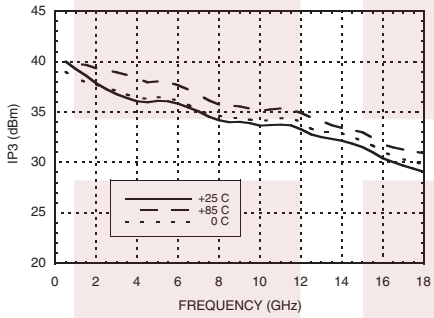
P1dB vs. Temperature



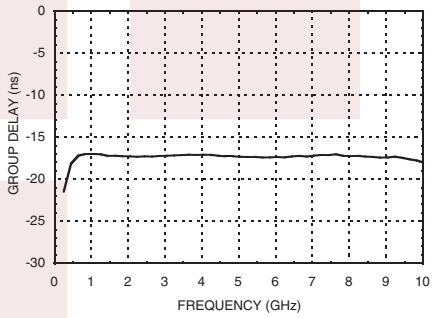
Psat vs. Temperature



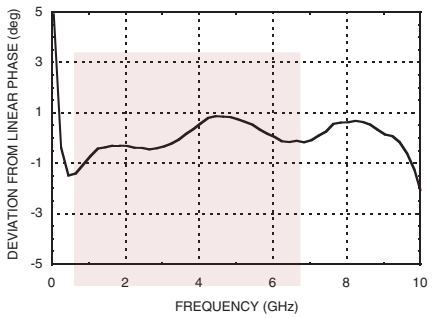
Output IP3 vs. Temperature



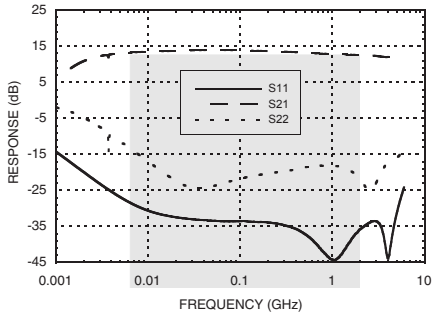
Group Delay



Deviation from Linear Phase



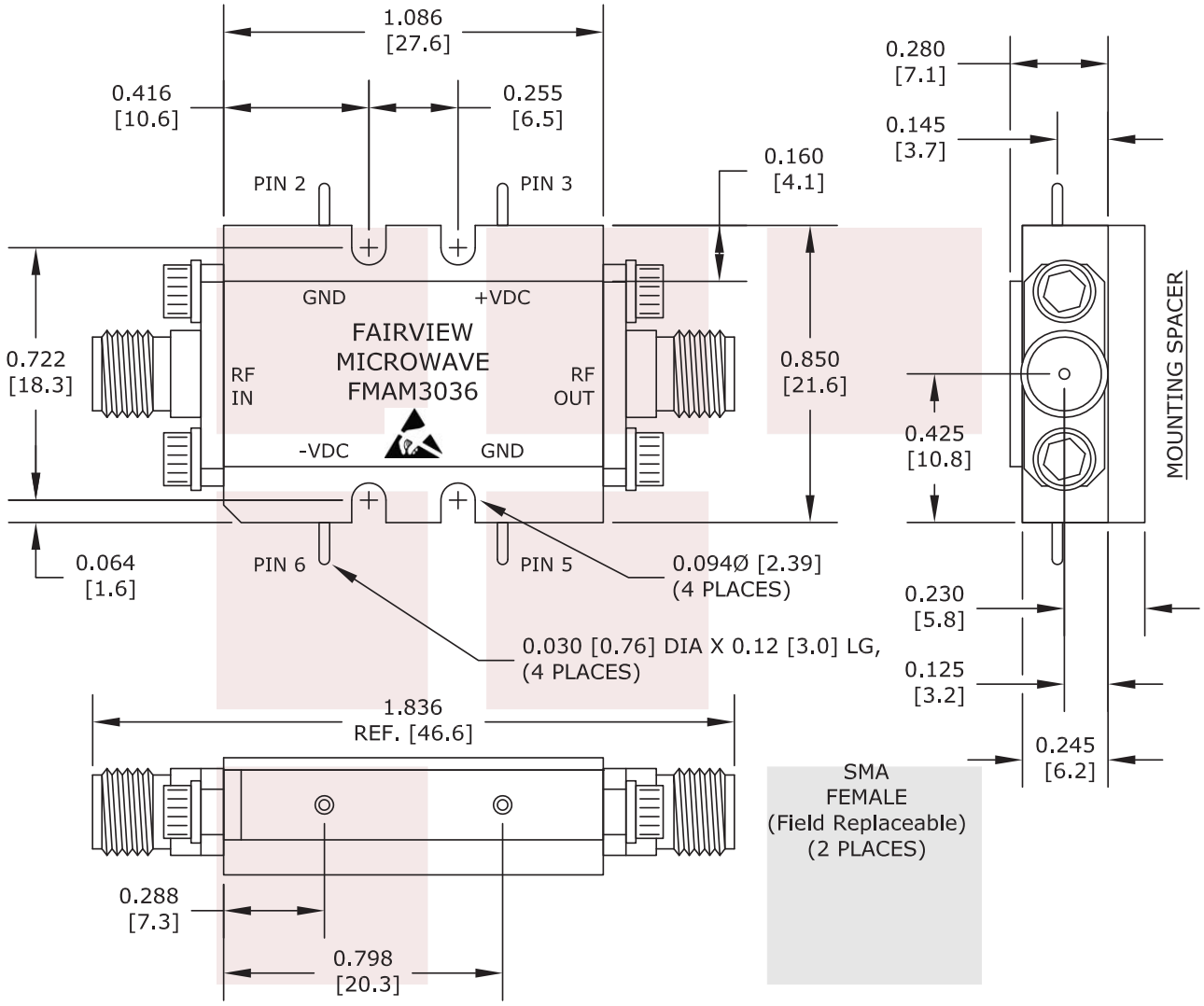
Low Frequency Gain & Return Loss



10 MHz to 15 GHz, Broadband Amplifier with 600 mW, 12 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: 10 MHz to 15 GHz, Broadband Amplifier with 600 mW, 12 dB Gain and SMA FMAM3036

URL: https://www.fairviewmicrowave.com/10-mhz-15-ghz-broadband-amplifier-fmam3036-p.aspx



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

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM	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 10 MHz to 15 GHz, Broadband Amplifier with 600 mW, 12 dB Gain and SMA	DWG NO FMAM3036 / CAGE CODE 3FKR5
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