

2 GHz to 35 GHz, Broadband Amplifier with 18 dBm, 12 dB Gain and 2.92mm

FMAM3038 is a Broadband Distributed Amplifier operates across an extremely wide frequency band from 2 to 35 GHz. The design utilizes GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance at 10 GHz includes 12 dB of small signal gain, 3 dB noise figure, +29 dBm output IP3, and +18 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 DC blocked. 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 2.92mm 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 Driver Amplifier Module is part of Fairview Microwave expanding line of Amplifier offerings. These modules are Distributive Amplifiers that offer very wide Frequency Range coverage and outstanding electrical performance in the band.

Electrical Specifications (TA = +25°C)

Description	Min	Typ	Max	Unit
Frequency Range	2		35	GHz
Gain		12		dB
P1dB	+18			dBm
Operating Temperature Range (OTR)	-55		+85	°C



Features:

- Driver Amplifier
- Extremely Wide Frequency Band
- GaAs PHEMT MMIC Technology
- Gain 12 dB @ 10 GHz
- High Output IP3 +29 dBm @ 10 GHz
- P1dB +18 dBm
- 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
- OC192 Fiber Optic Driver Applications
- Microwave Radio
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

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Performance by Frequency

Description	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	2.0 - 15			15 - 27			27 - 35			GHz
Gain	9	12		8	11		6	9		dB
Gain Flatness	±0.5			±0.4			±1.5			dB
Gain Variation Over Temperature	0.02	0.03		0.02	0.03		0.02	0.03		dB/ °C
Noise Figure	3.0			4.0			6.0			dB
Input Return Loss	15			10			6			dB
Output Return Loss	15			13			13			dB
Output Power For 1 dB Compression (P1dB)	15	18		13	16		10	14		dBm
Saturated Output Power (Psat)	20			18.5			15.5			dBm
Output Third Order Intercept (IP3)	29			26			25			dBm
Positive Supply Current (+Idc)	92			92			92			mA
Negative Supply Current (-Idc)	5.3			5.3			5.3			mA

Mechanical Specifications

Weight 0.08 lbs [36.29 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.



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

RoHS Compliant Yes

Plotted and Other Data

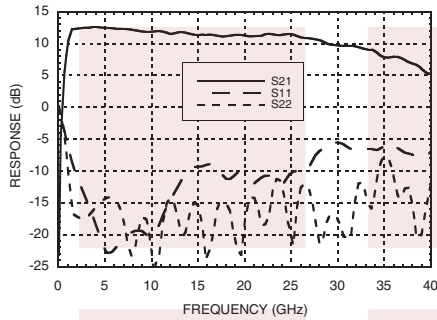
Notes:

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

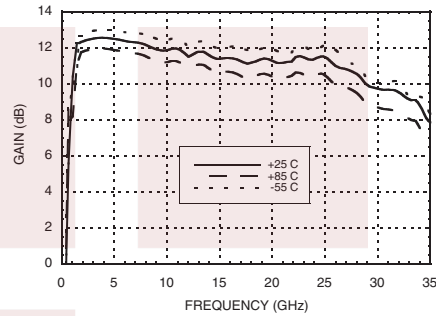


Typical Performance Data

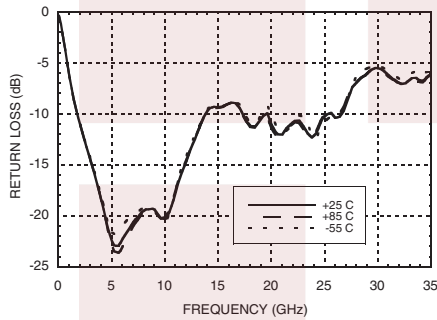
Gain & Return Loss



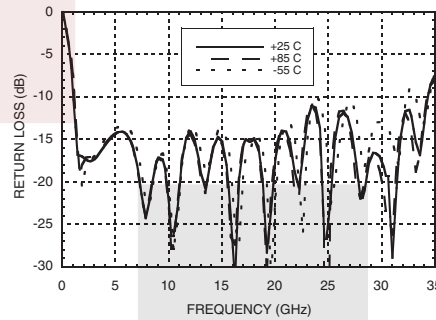
Gain vs. Temperature



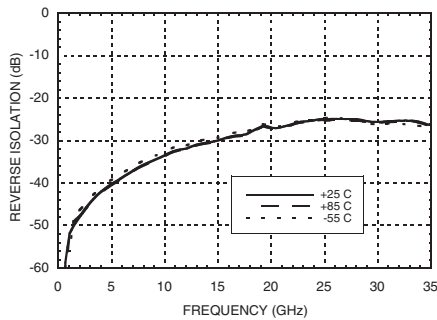
Input Return Loss vs. Temperature



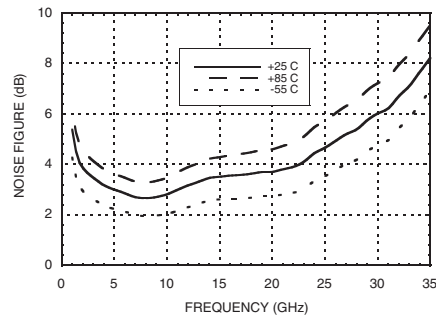
Output Return Loss vs. Temperature



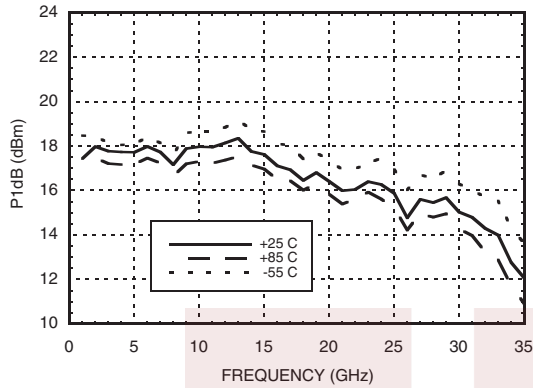
Reverse Isolation vs. Temperature



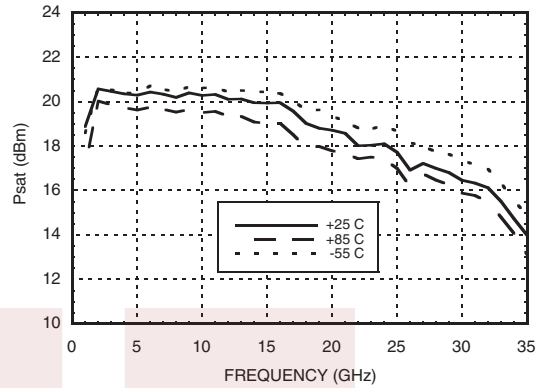
Noise Figure vs. Temperature



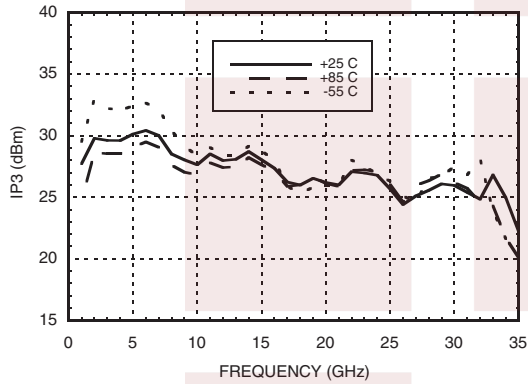
P1dB vs. Temperature



Psat vs. Temperature



Output IP3 vs. Temperature

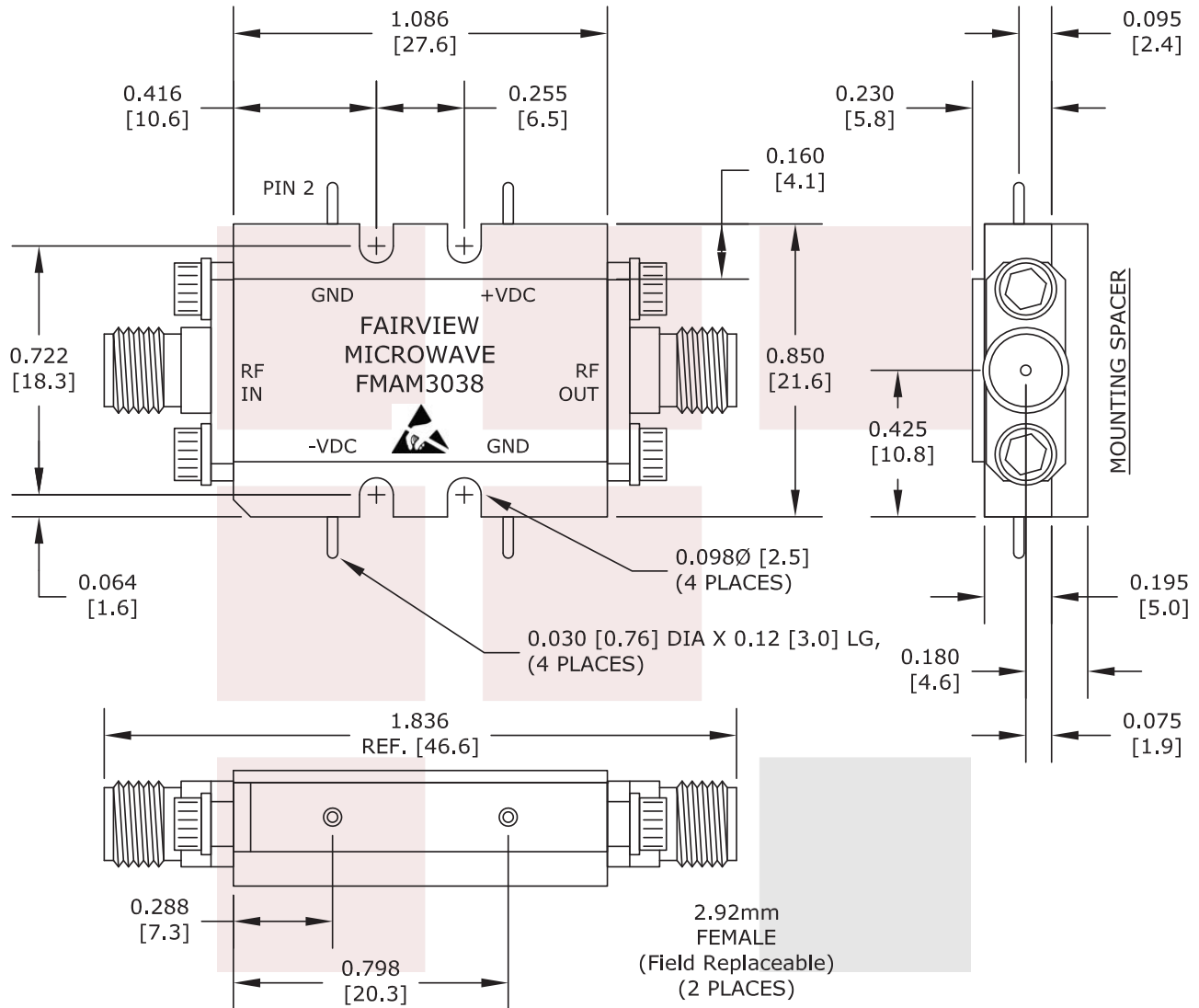


2 GHz to 35 GHz, Broadband Amplifier with 18 dBm, 12 dB Gain and 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [2 GHz to 35 GHz, Broadband Amplifier with 18 dBm, 12 dB Gain and 2.92mm FMAM3038](http://www.fairviewmicrowave.com/2-35-ghz-broadband-amplifier-fmam3038)

URL: <http://www.fairviewmicrowave.com/2-35-ghz-broadband-amplifier-fmam3038-p.aspx>

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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 2 GHz to 35 GHz, Broadband Amplifier with 18 dBm, 12 dB Gain and 2.92mm		DWG NO FMAM3038		CAGE CODE 3FKR5	
CAD FILE	051716	SHEET	SCALE	N/A	SIZE A 2233