Fairview Microwave
an INFINITе brand

2 GHz to 35 GHz, Medium Power 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.

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
- Optical Modulator Driver Applications
- Microwave Radio
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

Electrical Specifications (TA= 25°C)

Description	Min	Typ	Max	Unit
Frequency Range	2		35	GHz
Gain		12		dB
Gain Flatness		±0.4		dB
P1dB	+18			dBm
Saturation Output Power		+18.5		dBm
IP3		+26		dBm
Noise Figure		4		dB
Operating DC Voltage 1	11		16	Volts
Operating DC Voltage 2	-4		-12	Volts
Operating Temperature Range (OTR)	-55		+85	°C

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sales@fairviewmicrowave.com

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

Absolute Maximum Rating

Parameter	Rating	Units
Postive Bias Voltage (+Vdc)	+17	Volts
Negative Bias Voltage (-Vdc)	-16	Volts
RF Input Power (RFIN)	+23	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperarure	-65 to +150	°C

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

Mechanical Specifications
Size
Length	1.086 in [27.58 mm]
Width	0.195 in [4.95 mm]
Height	0.85 in [21.59 mm]
Weight	0.08 lbs [36.29 g]
Input Connector	Field Replaceable 2.92mm Female
Output Connector	Field Replaceable 2.92mm Female

Environmental Specifications
Temperature
Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C

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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)
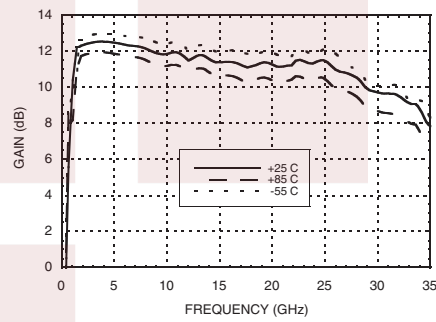
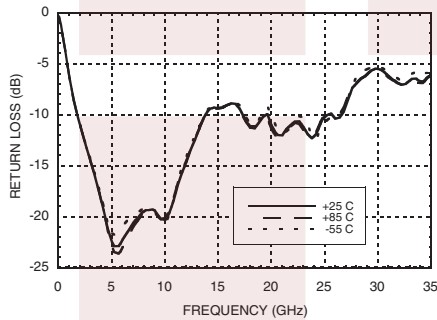## Plotted and Other Data
Notes:

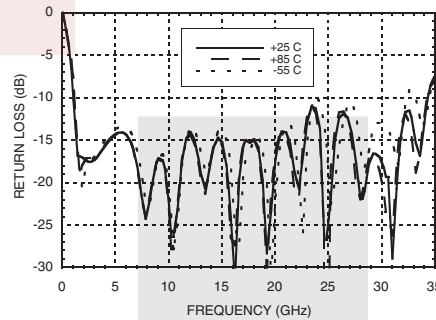### Typical Performance Data

Gain & Return Loss
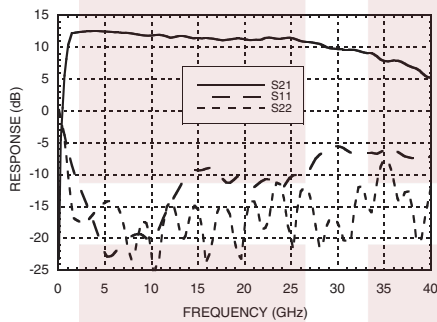
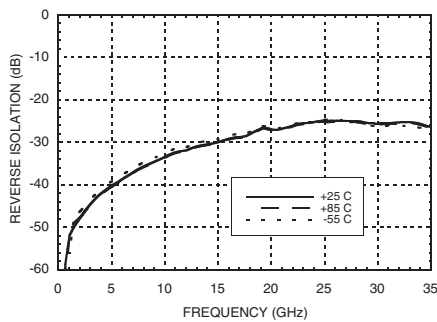#### Gain vs. Temperature

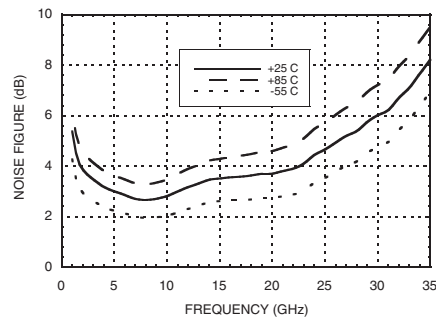#### Input Return Loss vs. Temperature

Output Return Loss vs. Temperature
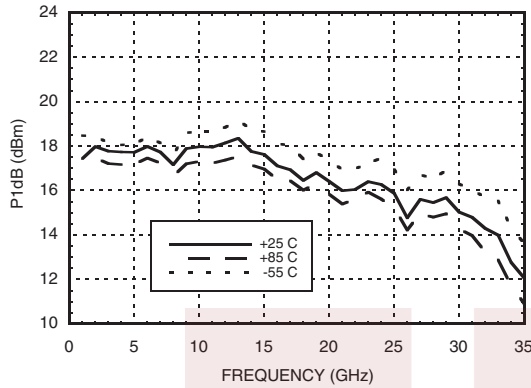

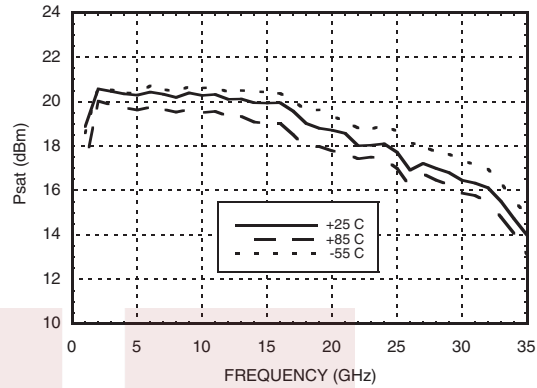#### Reverse Isolation vs. Temperature
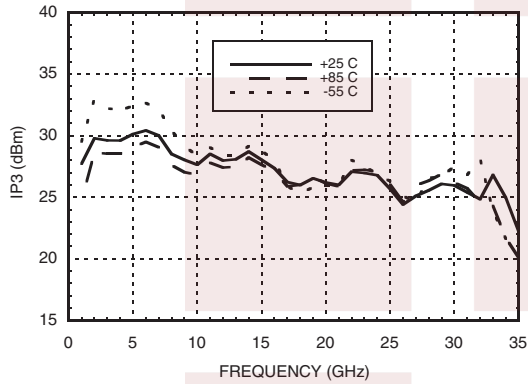

Noise Figure vs. Temperature

P1dB vs. Temperature

Psat vs. Temperature
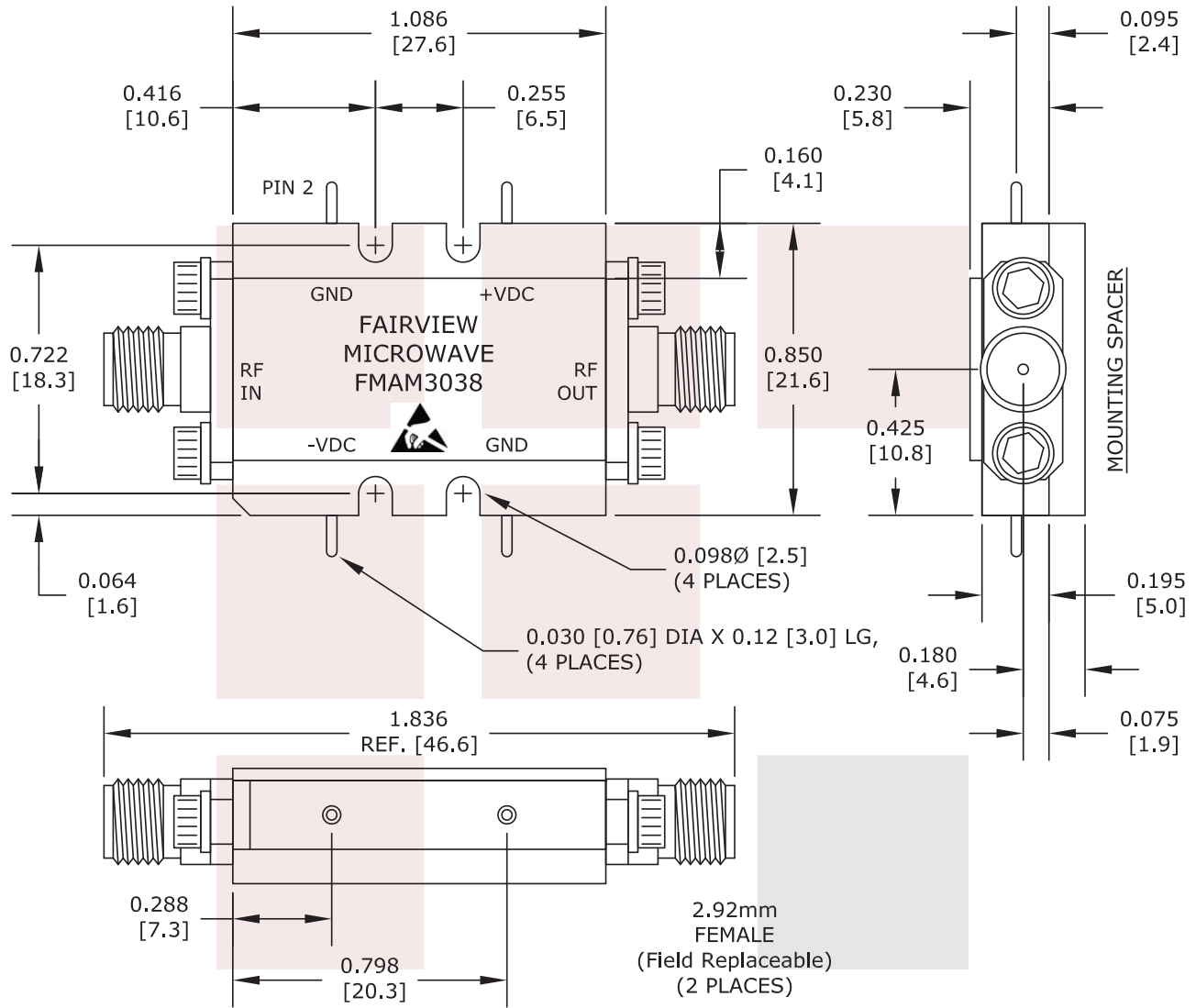

Output IP3 vs. Temperature

2 GHz to 35 GHz, Medium Power 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 Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 2 GHz to 35 GHz, Medium Power Broadband Amplifier with 18 dBm, 12 dB Gain and 2.92mm FMAM3038

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

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

1.086 [27.6]

0.416 [10.6]

0.255 [6.5]

0.095 [2.4]

0.230 [5.8]

0.160 [4.1]

PIN 2

GND   +VDC

FAIRVIEW
MICROWAVE
FMAM3038

RF IN   RF OUT

-VDC   GND

0.722 [18.3]

0.850 [21.6]

0.425 [10.8]

MOUNTING SPACER

0.064 [1.6]

0.098Ø [2.5] (4 PLACES)

0.030 [0.76] DIA X 0.12 [3.0] LG, (4 PLACES)

0.195 [5.0]

0.180 [4.6]

0.075 [1.9]

1.836 REF. [46.6]

0.288 [7.3]

0.798 [20.3]

2.92mm
FEMALE
(Field Replaceable)
(2 PLACES)

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

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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].

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

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