Fairview Microwave
an INFINITE brand

FMAM16
DATA SHEET

18 dB Gain Block Amplifier Operating From 100 MHz to 3 GHz with 16 dBm P1dB and SMA

The FMAM16 is wideband general purpose RF coaxial gain block amplifier operating in the 0.1 GHz to 3 GHz frequency range. The amplifier offers 16 dBm of P1dB, 18 dB of Gain. This exceptional technical performance is achieved through the use of hybrid MIC design . This gain block amplifier requires only a single positive supply, typically a +15V DC power supply.

Features:

- 0.1 GHz to 3 GHz Frequency Range
- P1dB: 16 dBm
- High Small Signal Gain: 18 dB
- 50 Ohm Input and Output Matched
- Unconditionally Stable
- Single DC Positive Supply

Electrical Specifications

(TA = +25°C, DC Voltage = 9 and +15 Volts, DC Current = 120mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		3	GHz
Small Signal Gain		18		dB
Gain Flatness		±1.5		dB
Noise Figure			6	dB
Operating DC Voltage	9		15	Volts
Operating DC Current			120	mA
Operating Temperature	-10		+65	°C

RF Characteristic Description	Band 1	Band 2	Band 3	Units
Frequency Range	0.1 to 1	1 to 2	2 to 3	GHz
Input Return Loss	18	20	18	dB

Mechanical Specifications

Size	
Length	2.18 in [55.37 mm]
Width	1.18 in [29.97 mm]
Height	0.49 in [12.45 mm]
Weight	0.0785 lbs [35.61 g]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature	
Operating Range	-10 to +65 deg C

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

- Values at +25 °C, sea level

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Amplifier Power-up Precautions

1.) Confirm that proper ESD precautions and controls are always in place before handling any Amplifier module.

2.) Confirm adequate thermal management is in place to effectively dissipate heat away from the Amplifier package. The Amplifier operational baseplate temperature must be within the operational temperature range stated in the Amplifier datasheet. Depending on the design and thermal requirements, using a heatsink with cooling fan is always recommended for safe reliable operation. A heat sink without a cooling fan may also be used. Damage caused from overheating will void the warranty.

3.) Confirm adequate system grounding is established. The DC power supply and Amplifier must have a common ground in order to operate properly.

4.) Power Amplifiers may require additional DC Current when initially powered-up. Depending on the design, the input current draw could range from an additional 10% to 100% above the maximum rated DC current of the Amplifier. This varies based on product part number.

5.) Confirm the DC power supply, if limited, is set to allow for additional start-up current that's rated for the Power Amplifier.

6.) Confirm the system is designed and calibrated for 50 ohms. Any impedance mismatch may cause performance issues.

7.) Preform a CALIBRATION (if required) with the loads before connecting the Amplifier to the Network Analyzer to ensure proper performance.

8.) Use a fixed attenuator between the signal source and input port of the Amplifier to optimize the input VSWR match.

9.) Confirm the input power level at the input port of the amplifier does not exceed the maximum rated limit for input power (as stated in the Amplifier datasheet).
P_{in} for Small Signal Gain = P1dB-SSG-10 dB
P_{in} for P1dB = P1dB-SSG+1 dB

10.) Confirm the Network Analyzer is always connected to the Amplifier first before DC power is applied to the Amplifier.

11.) As long as the input and output ports of the amplifier are connected to a 50Ohm load and RF signal power is applied, the Amplifier can be powered up with DC voltage.

12.) Confirm the Amplifier output load is matched for a 50 Ohm impedance and will not exceed the maximum rated VSWR or Return Loss limit for the Amplifier. Exceeding the maximum rated VSWR or Return Loss limit will result in reflected signal power that could damage the Amplifier and void the warranty.

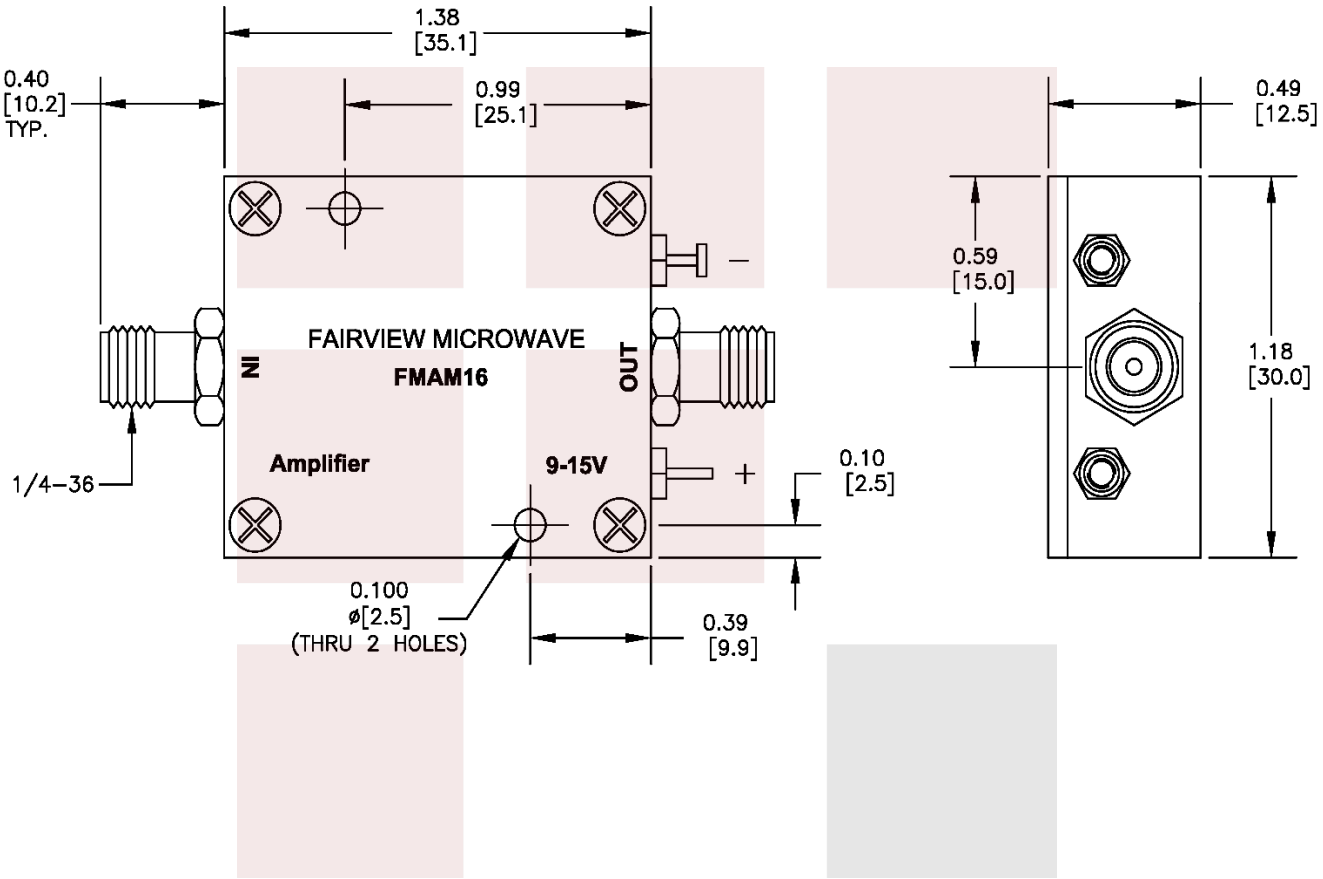
13.) **Power Amplifier connected to an Antenna for signal transmission** - It's strongly recommended to use a high power fixed attenuator pad or an Isolator between the output port of the Amplifier and input port to the antenna. Any reflected signal power due to impedance mismatch will likely damage the Amplifier and void the warranty.

14.) The attenuator or isolator used at the output port of the Amplifier must be rated to handle the output power level and operational frequency band of the amplifier.

18 dB Gain Block Amplifier Operating From 100 MHz to 3 GHz with 16 dBm P1dB 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: 18 dB Gain Block Amplifier Operating From 100 MHz to 3 GHz with 16 dBm P1dB and SMA FMAM16

URL: https://www.fairviewmicrowave.com/18-db-gain-block-amplifier-3-ghz-fmam16-p.aspx



STANDARD TOLERANCES	
.X	±0.2
.XX	±0.01
.XXX	±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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 18 dB Gain Block Amplifier Operating From 100 MHz to 3 GHz with 16 dBm P1dB and SMA	DWG NO FMAM16			CAGE CODE 3FKR5	
	CAD FILE 101917	SHEET 1 OF 1	SCALE N/A	SIZE A	7361