

Variable Gain Control Amplifier, 1 GHz to 40 GHz, GaAs FET, 40 dB Gain, 20 dB Variable Gain, 10 dBm P1dB, 2.92mm

The FMAM7011 is an RF amplifier with voltage variable gain control that covers a broadband frequency from 1 GHz to 40 GHz. The module provides a continuously variable gain control of 20 dB over the entire frequency band which gives the Designer increased dynamic range and the ability to set signal levels. The low control current (typically less than 10 mA) simplifies control driver requirements. The design incorporates the use of GaAs FET and MMIC fixed-gain modules to provide low noise figure and medium power output over the entire frequency band. Typical performance for the 50 ohm design with 0V gain control includes 45 dB small signal gain, 5 dB noise figure, and +10 dBm output P1dB. DC Bias Voltage ranges from +12V to +15V with 450 mA current, and control voltage ranges from 0V for maximum gain to +5V for minimum gain. The rugged Mil Grade aluminum package supports 2.92mm female connectors, has an operational temperature range of 0°C to +50°C, and is designed to meet a series of environmental conditions including Altitude, Vibration, Humidity, and Shock.

Electrical Specifications (TA = +25°C, DC Voltage = 15Volts, DC Current = 450mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	1		40	GHz
Small Signal Gain	40	45		dB
Gain Flatness			±5	dB
Gain Control Range		20		dB
Output at P1dB*	+5	+10		dBm
P1dB at Gain Control		8		dBm
Noise Figure*		5	7	dB
Input VSWR		1.5:1	2.3:1	
Output VSWR		1.8:1	2.3:1	
Operating DC Voltage	12	15	16	Volts
Control Voltage DC	0		5	Volts
Control DC Current		10		mA
Operating DC Current		450		mA

Mechanical Specifications

Size

Length	1.39 in [35.31 mm]
Width	1.4 in [35.56 mm]
Height	0.4 in [10.16 mm]
Weight	0.45 lbs [204.12 g]
Input Connector	2.92mm Female
Output Connector	2.92mm Female

Environmental Specifications

Temperature

Operating Range	0 to +50 deg C
Storage Range	-40 to +100 deg C



Features:

- Variable Gain Amplifier
- Frequency Range 1 GHz to 40 GHz
- GaAs FET Semiconductor Technology
- Small Signal Gain 45 dB Typ
- Variable Gain 20 dB
- Output P1dB +10 dB Typ
- Noise Figure 5 dB Typ
- DC Voltage +12 to +15 Vdc
- DC Current 450 mA
- DC Control Voltage 0V to +5V
- DC Control Current < 10 mA
- 50 Ohm Design
- 0°C to +50°C Operating Temperature
- SMA Female Connectors
- Rugged Mil Grade Aluminum Package Design

Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- RF Front Ends
- SATCOM
- Wireless Communications
- Unmanned Systems

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Shock
Vibration

MIL-STD-202F, Method 213B, Condition B
MIL-STD-202F, Method 204D, Condition B

Compliance Certifications (see [product page](#) for current document)

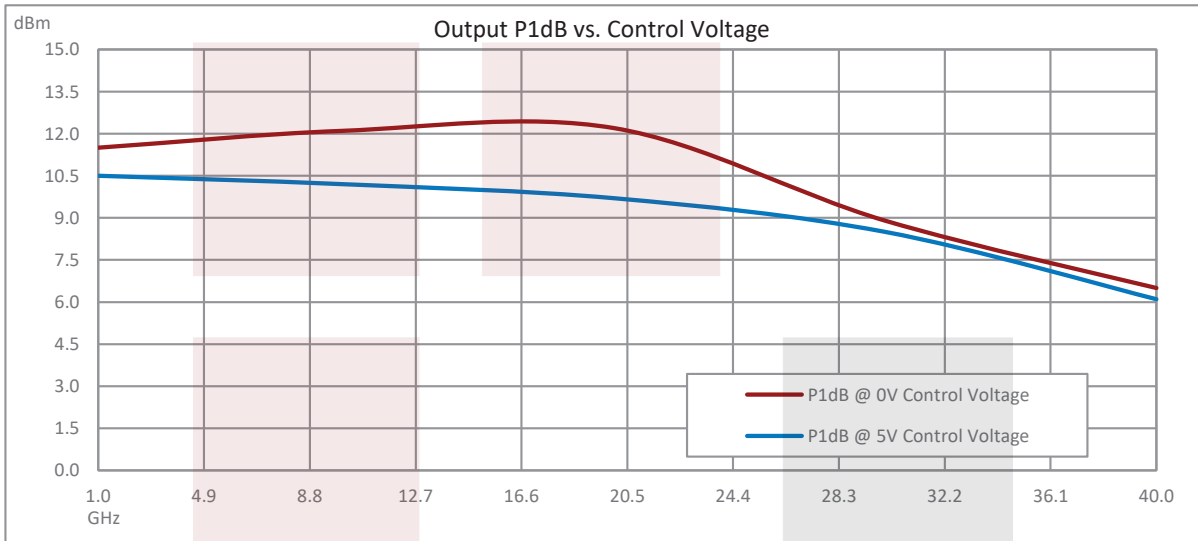
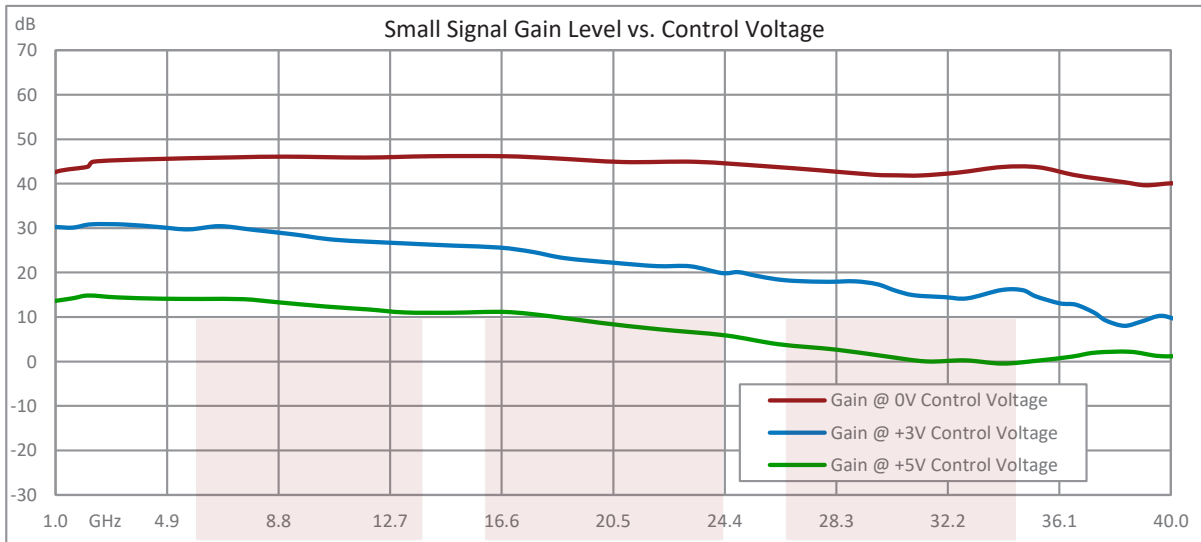
Plotted and Other Data

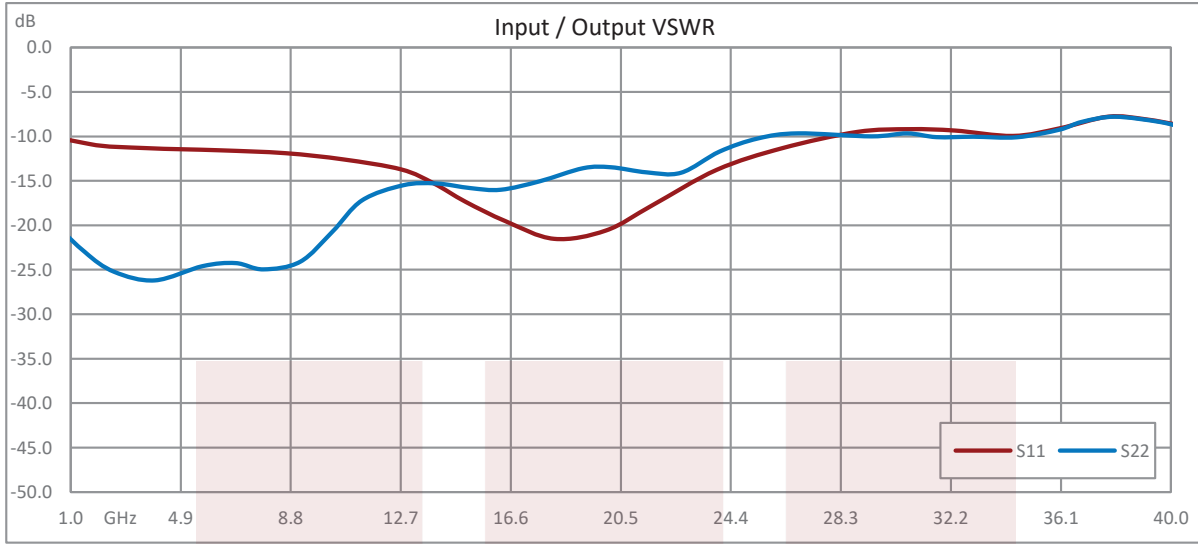
Notes:

- Values at +25 °C, sea level
- *At 0V Gain Control
- DC Bias to the RF input may damage the Amplifier



Typical Performance Data





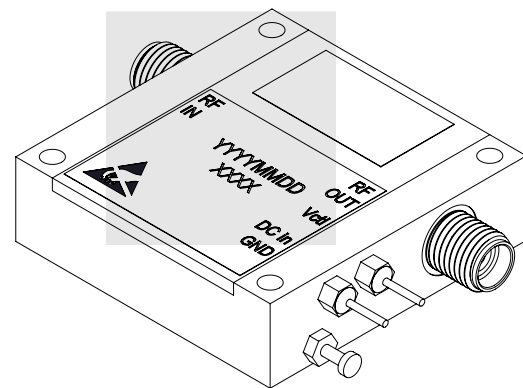
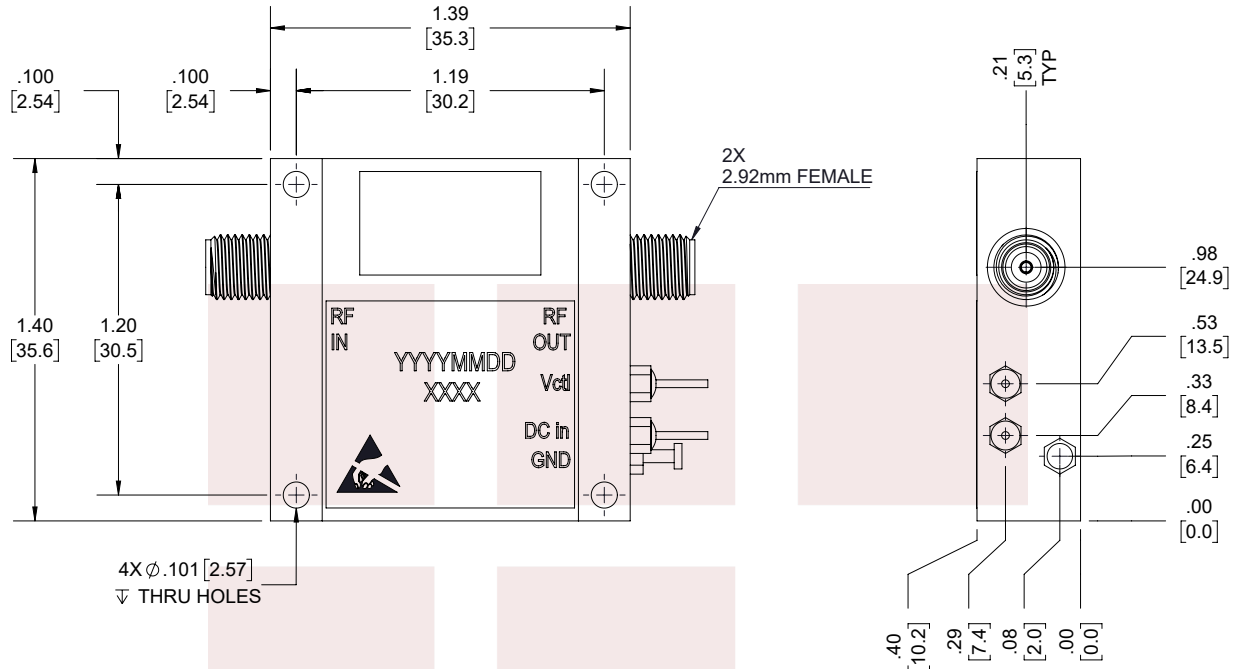
Variable Gain Control Amplifier, 1 GHz to 40 GHz, GaAs FET, 40 dB Gain, 20 dB Variable Gain, 10 dBm P1dB, 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Variable Gain Control Amplifier, 1 GHz to 40 GHz, GaAs FET, 40 dB Gain, 20 dB Variable Gain, 10 dBm P1dB, 2.92mm FMAM7011](https://www.fairviewmicrowave.com/40-db-gain-variable-gain-amplifier-292mm-fmam7011-p.aspx)

URL: <https://www.fairviewmicrowave.com/40-db-gain-variable-gain-amplifier-292mm-fmam7011-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.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	9/3/2020	T.GALLA



LABEL



THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.



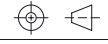
TITLE
Variable Gain Control Amplifier, 1 GHz to 40 GHz,
GaAs FET, 40 dB Gain, 20 dB Variable Gain, 10 dBm
P1dB, 2.92mm

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES
DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.

SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMAM7011	REV A
-----------	--------------------	--------------------	----------------------	----------

T-Rev.D