FMM5007VF

GaAs MMIC

FEATURES

- High Output Power: 31.0dBm (typ.)
- High Linear Gain: 20dB (typ.)
- Low In/Out VSWR
- Integrated Output Power Monitor
- Impedance Matched Zin/Zout = 50Ω
- Small Hermetic Metal-Ceramic Package (VF)

DESCRIPTION

The FMM5007VF is a MMIC amplifier designed for VSAT applications as a driver or output stage in the 14.0 to 14.5 GHz band.

Fujitsu's stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature Ta=25°C)

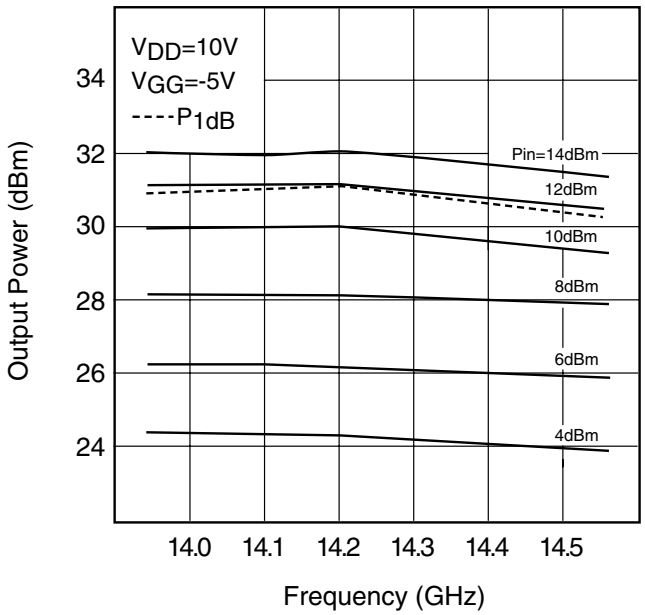
Item	Symbol	Rating	Unit
DC Input Voltage	V_{DD}	12	V
DC Input Voltage	V_{GG}	-7	V
Input Power	P_{in}	20	dBm
Storage Temperature	T_{stg}	-55 to +125	°C
Operating Case Temperature	T_{op}	-40 to +85	°C

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

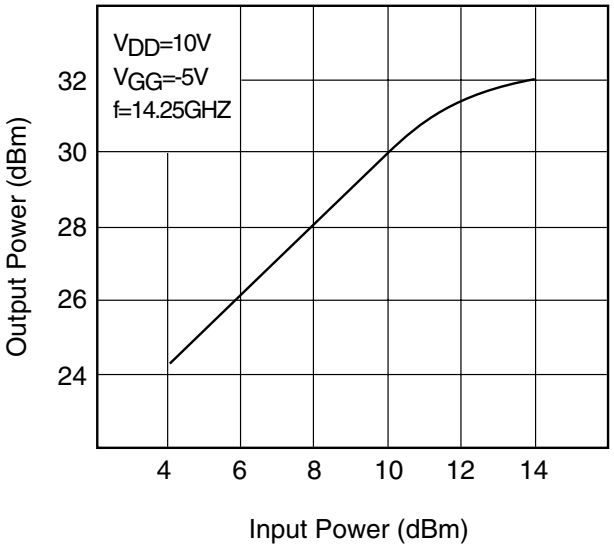
Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		14.0	-	14.5	GHz
Output Power at 1dB G.C.P.	P_{1dB}	V_{DD} = 10V V_{GG} = -5V f = 14.0 to 14.5 GHz	30.0	31.0	-	dBm
Linear Gain	G		18.0	20.0	-	dB
Gain Flatness	ΔG		-	1.0	1.5	dB
Input VSWR	VSWRi		-	2:1	2.3:1	-
Output VSWR	VSWRo		-	2.3:1	3:1	-
Power Monitor	Vmon	Pout = 30dBm	-	3.5	-	V
DC Input Current	I_{DD}	V_{DD} = 10V V_{GG} = -5V	-	1000	1200	mA
DC Input Current	I_{GG}		-	15	20	mA

CASE STYLE: VF

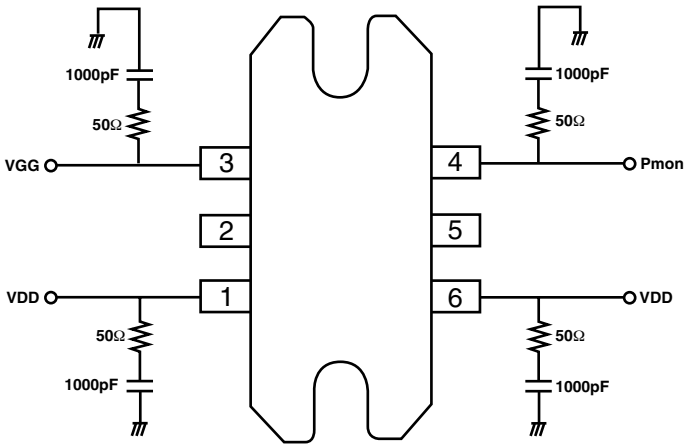
OUTPUT POWER vs. FREQUENCY

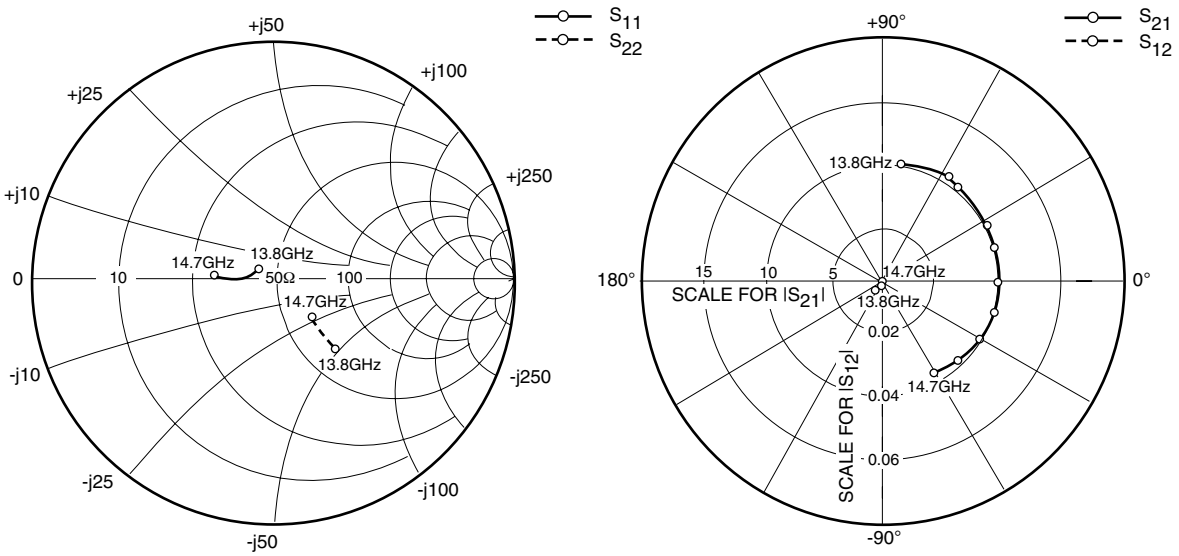


OUTPUT POWER vs. INPUT POWER



Recommended Bias Circuit





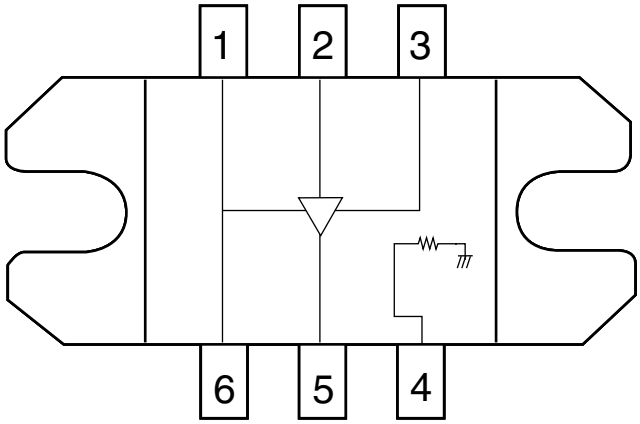
S-PARAMETERS

V_{DD} = 10V, V_{GG} = -5V

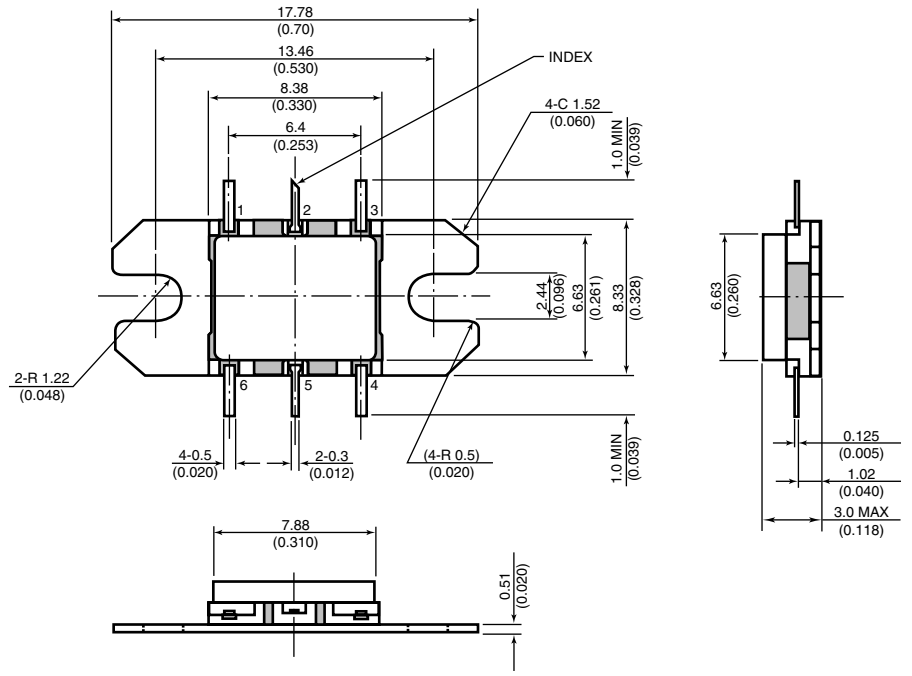
FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
13800	.081	150.5	10.412	78.2	.004	-109.4	.400	-45.0
13900	.066	144.4	10.869	55.9	.004	-165.3	.377	-44.4
14000	.053	141.5	10.443	46.5	.009	-163.0	.359	-44.8
14100	.052	152.1	10.511	26.7	.008	-128.8	.328	-43.6
14200	.052	163.7	10.387	14.9	.005	171.8	.316	-45.2
14300	.069	177.3	10.078	-2.6	.005	-123.7	.299	-43.5
14400	.090	178.7	9.953	-15.6	.004	-90.4	.281	-43.6
14500	.119	-178.1	9.496	-30.3	.006	-160.1	.259	-42.8
14600	.161	178.0	9.486	-45.6	.001	-164.1	.232	-42.5
14700	.201	173.7	8.887	-59.6	.001	-104.3	.213	-37.6

Download S-Parameters, click here

Pin Configuration



Case Style "VF"



PIN ASSIGNMENT

Pin	Symbol
1.	V_{DD}
2.	RF in
3.	V_{GG}
4.	Pmon
5.	RF out
6.	V_{DD}

Unit: mm(inches)

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CAUTION

Fujitsu Compound Semiconductor Products contain **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- **Do not put these products into the mouth.**
- **Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.**
- **Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.**

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