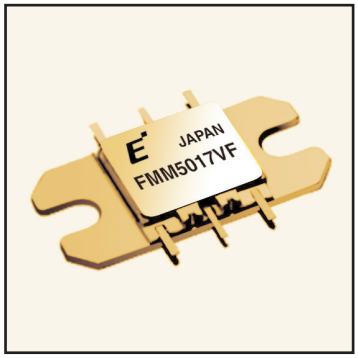
FMM5017VF

GaAs MMIC

FEATURES

- High Output Power: 29dBm (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 FMM5017VF is a MMIC amplifier designed for VSAT applications as a driver or output stage in the 14.0 to 14.5 GHz band. This device is well suited for designs that require less than 1 Watt and lower cost.

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

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

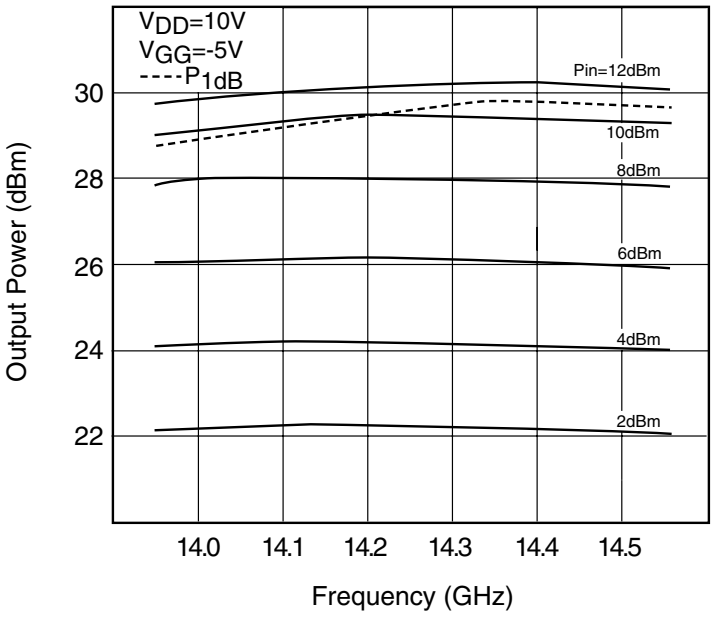
Item	Symbol	Rating	Unit
DC Input Voltage	V_{DD}	12	V
DC Input Voltage	V_{GG}	-7	V
Input Power	P_{in}	17	dBm
Storage Temperature	T_{stg}	-55 to +125	°C
Operating Case Temperature	T_{op}	-40 to +85	°C

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

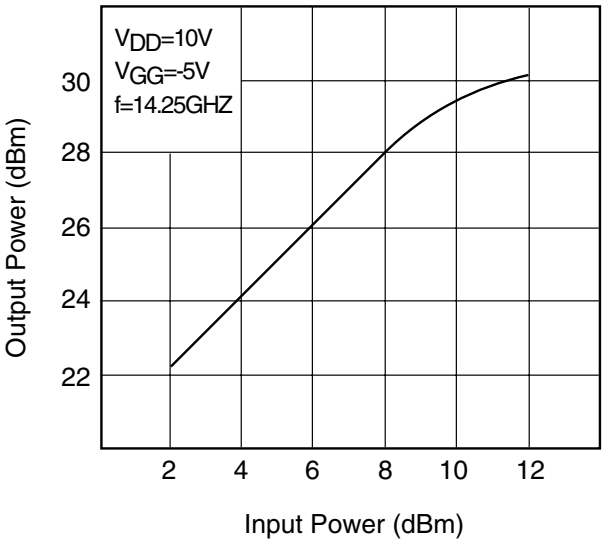
Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		14.0	~	14.5	GHz
Output Power at 1dB G.C.P.	P_{1dB}	V_{DD} = 10V V_{GG} = -5V f = 14.0 to 14.5 GHz	28.0	29.0	-	dBm
Linear Gain	G		18.0	20.0	-	dB
Gain Flatness	ΔG		-	1.0	1.5	dB
Input VSWR	VSWRi		-	2:1	2.3:1	-
Output VSWR	VSWRo		-	2.3:1	3:1	-
Power Monitor	Vmon	Pout = 28.0dBm	-	2.5	-	V
DC Input Current	I_{DD}	V_{DD} = 10V V_{GG} = -5V	-	700	1000	mA
DC Input Current	I_{GG}		-	15	20	mA

CASE STYLE: VF

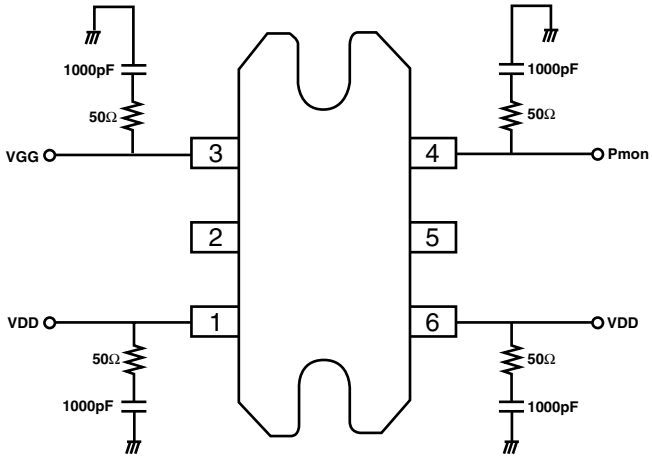
OUTPUT POWER vs. FREQUENCY

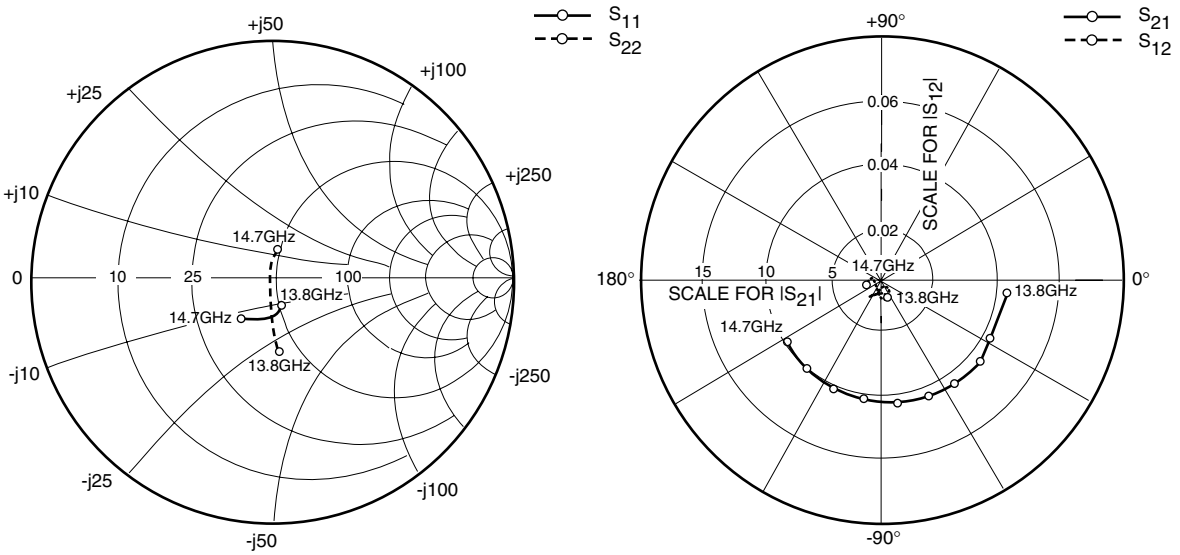


OUTPUT POWER vs. INPUT POWER



Recommended Bias Circuit



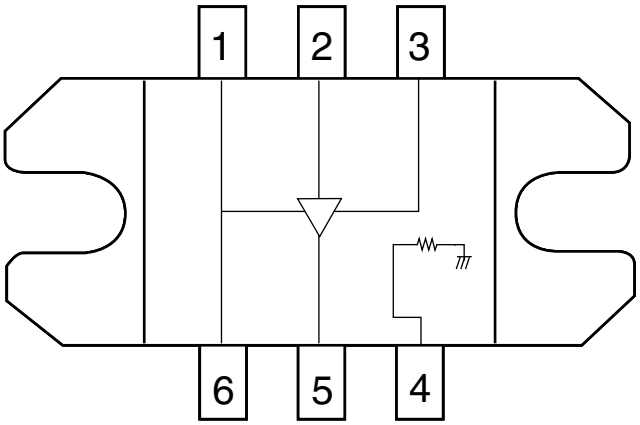


S-PARAMETERS

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

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
13800	.074	-61.1	11.417	-6.7	.007	-77.6	.341	-86.2
13900	.100	-62.8	11.014	-27.2	.001	-66.1	.289	-87.2
14000	.109	-69.8	11.331	-38.0	.004	-134.6	.250	-89.6
14100	.119	-76.2	10.909	-55.3	.007	-114.5	.203	-89.4
14200	.125	-86.0	11.088	-69.1	.009	-133.9	.170	-93.2
14300	.138	-93.2	10.730	-83.9	.005	-110.5	.126	-94.5
14400	.147	-102.6	10.728	-98.6	.007	-88.3	.081	-104.1
14500	.156	-112.8	10.562	-113.4	.007	-100.2	.027	-137.0
14600	.174	-124.2	10.353	-128.9	.005	172.4	.057	96.0
14700	.196	-136.3	9.941	-146.6	.007	-158.7	.128	69.3

Pin Configuration



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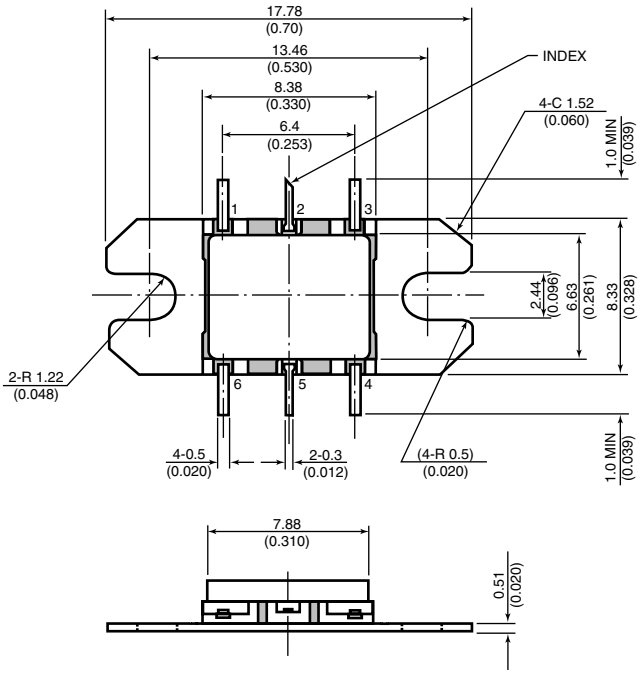
Case Style "VF"



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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- **Do not put this product 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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