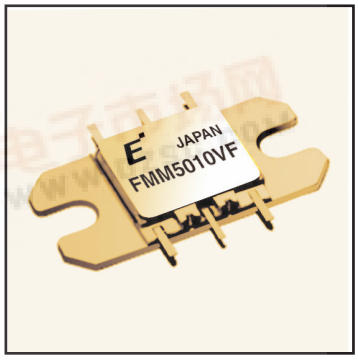
FMM5010VF

GaAs MMIC

FEATURES

- High Output Power: 21.0dBm (typ.)
- High Linear Gain: 25dB (typ.)
- Low In/Out VSWR
- Impedance Matched Zin/Zout = 50Ω
- Small Hermetic Metal-Ceramic Package (VF)



DESCRIPTION

The FMM5010VF is a power amplifier designed for VSAT applications as a driver or output stage in the 14.0 to 14.5 GHz band.

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

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

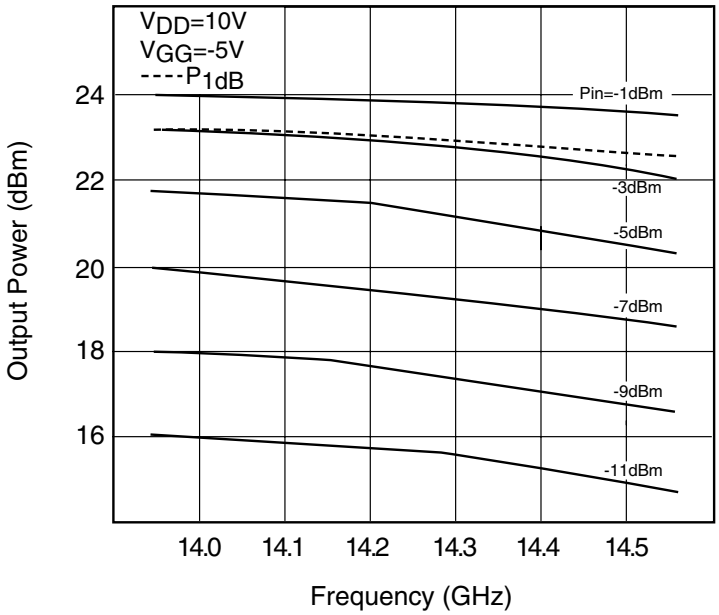
Item	Symbol	Rating	Unit
DC Input Voltage	V_{DD}	12	V
DC Input Voltage	V_{GG}	-7	V
Input Power	P_{in}	5	dBm
Storage Temperature	T_{stg}	-55 to +125	°C
Operating Case Temperature	T_{op}	-40 to +85	°C

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

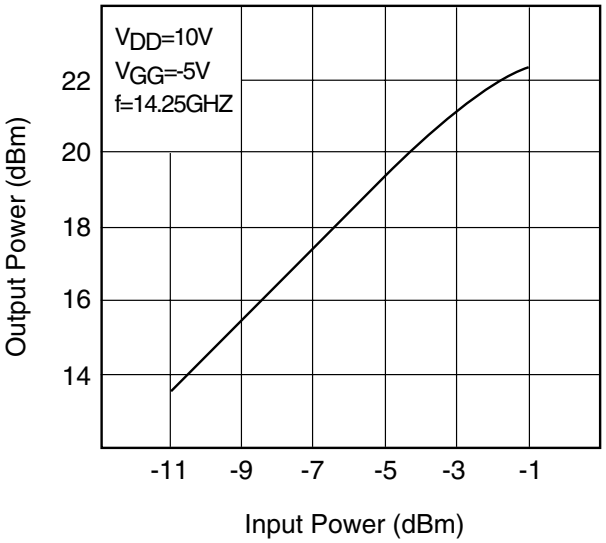
Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		14.0	~	14.5	GHz
Output Power at 1dB G.C.P.	P_{1dB}	V_{DD} = 10V V_{GG} = -5V f = 14.0 to 14.5 GHz	19.0	21.0	-	dBm
Linear Gain	G		22.0	25.0	-	dB
Gain Flatness	ΔG		-	1.0	1.5	dB
Input VSWR	VSWRi		-	1.7:1	2:1	-
Output VSWR	VSWRo		-	2:1	2.3:1	-
DC Input Current	I_{DD}	V_{DD} = 10V V_{GG} = -5V	-	100	150	mA
DC Input Current	I_{GG}		-	5	10	mA

CASE STYLE: VF

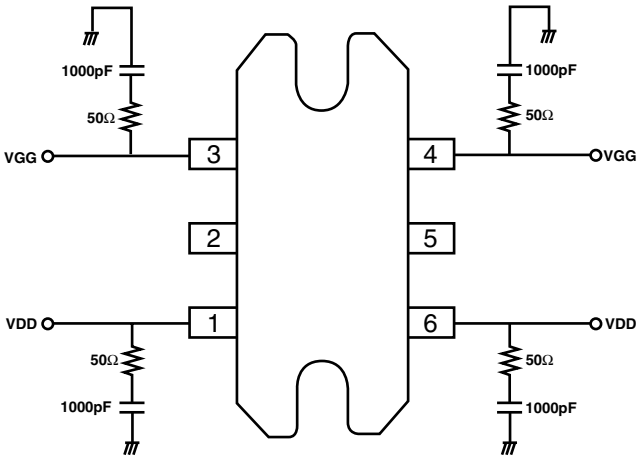
OUTPUT POWER vs. FREQUENCY

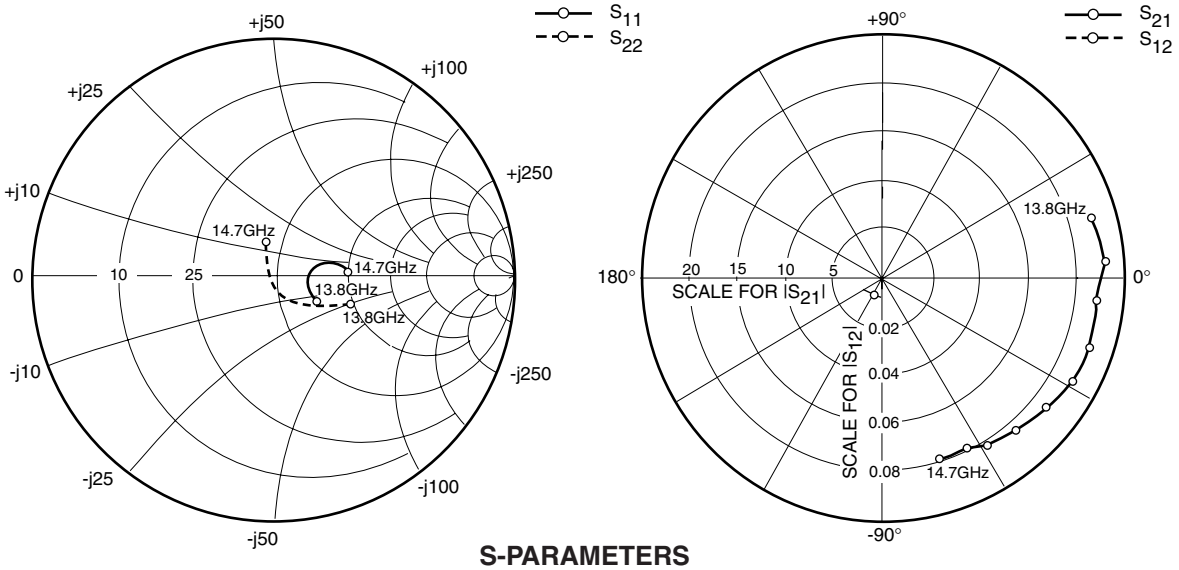


OUTPUT POWER vs. INPUT POWER



Recommended Bias Circuit



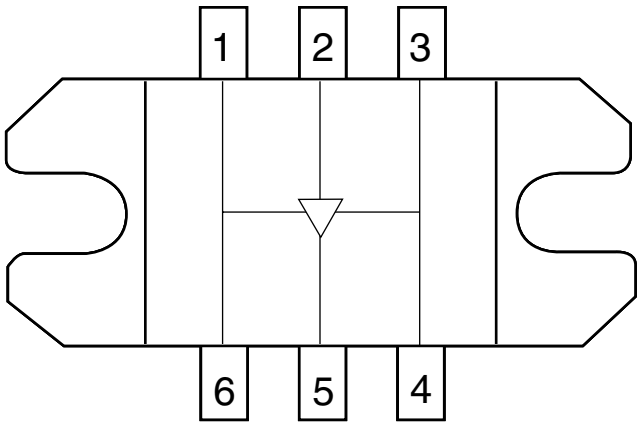


S-PARAMETERS

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

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
13800	.222	-22.9	22.454	14.6	.009	-125.7	.355	-17.5
13900	.179	-15.4	22.847	3.3	.006	-103.7	.301	-22.2
14000	.161	0.4	22.346	-7.1	.009	-97.3	.250	-29.3
14100	.183	11.8	22.428	-19.8	.008	-129.8	.203	-36.2
14200	.210	19.5	22.008	-28.3	.008	-113.6	.139	-45.2
14300	.255	19.0	21.359	-38.9	.010	-135.9	.075	-59.0
14400	.285	16.1	20.744	-48.2	.009	-138.1	.023	-93.6
14500	.307	12.0	20.085	-57.3	.008	-123.7	.048	129.1
14600	.324	7.7	19.427	-65.2	.012	-153.6	.110	113.2
14700	.341	2.0	19.460	-74.0	.008	-126.8	.146	105.3

Pin Configuration



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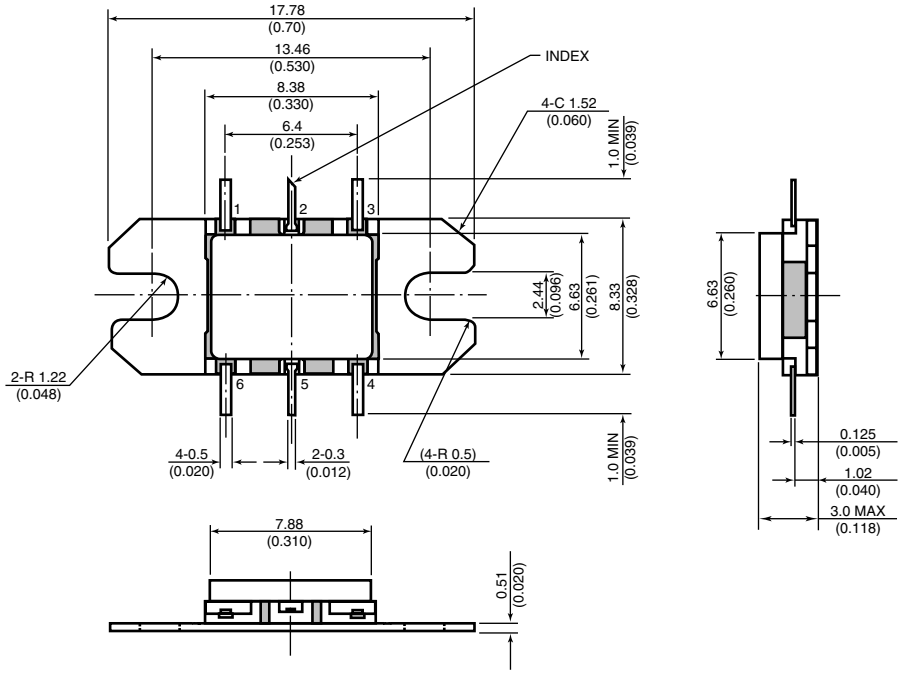
Case Style "VF"



PIN ASSIGNMENT

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

Unit: mm(inches)

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CAUTION

Eudyna Devices Inc. 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 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.**