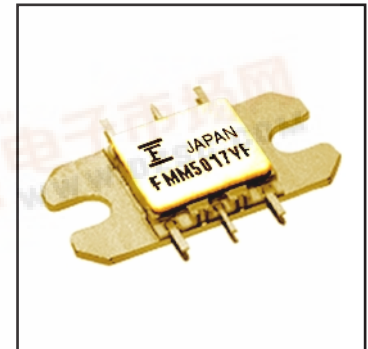


# FMM5017VF

GaAs MMIC

## FEATURES

- High Output Power: 29dBm (typ.)
- High Linear Gain: 20dB (typ.)
- Low In/Out VSWR
- Integrated Output Power Monitor
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- 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.

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

## ABSOLUTE MAXIMUM RATINGS (Ambient Temperature $T_a=25^\circ\text{C}$ )

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	$^\circ\text{C}$
Operating Case Temperature	$T_{op}$	-40 to +85	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$ )

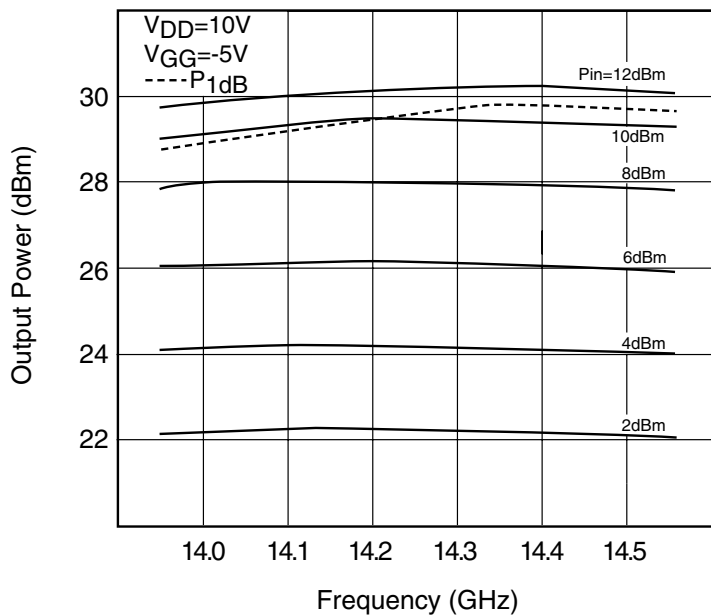
Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		14.0	~	14.5	GHz
Output Power at 1dB G.C.P.	$P_{1dB}$		28.0	29.0	-	dBm
Linear Gain	G	$V_{DD} = 10\text{V}$ $V_{GG} = -5\text{V}$ $f = 14.0 \text{ to } 14.5 \text{ GHz}$	18.0	20.0	-	dB
Gain Flatness	$\Delta G$		-	1.0	1.5	dB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

CASE STYLE: VF

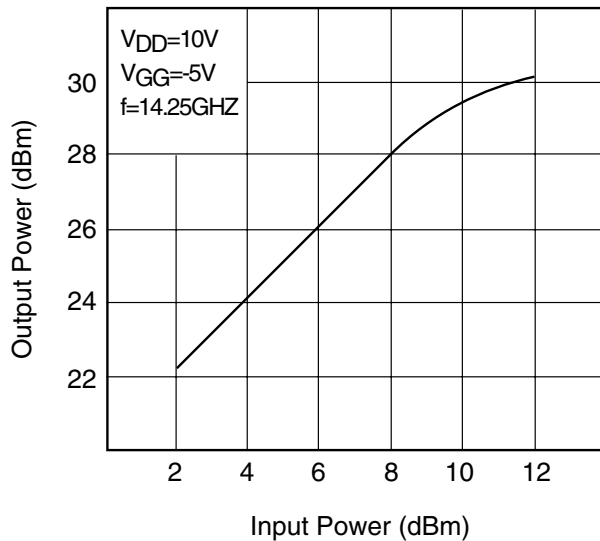
# FMM5017VF

GaAs MMIC

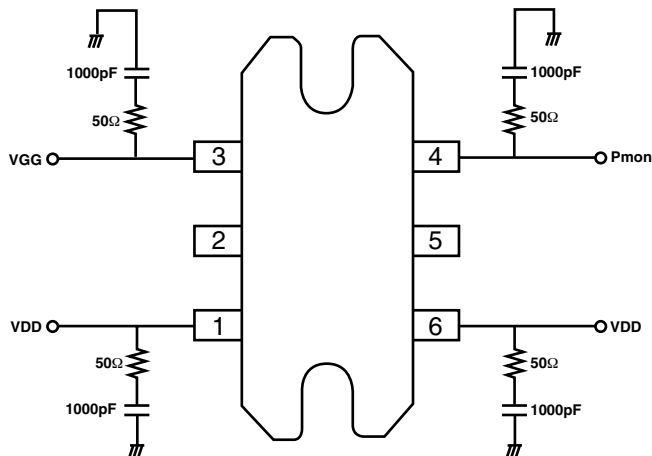
### OUTPUT POWER vs. FREQUENCY



### OUTPUT POWER vs. INPUT POWER

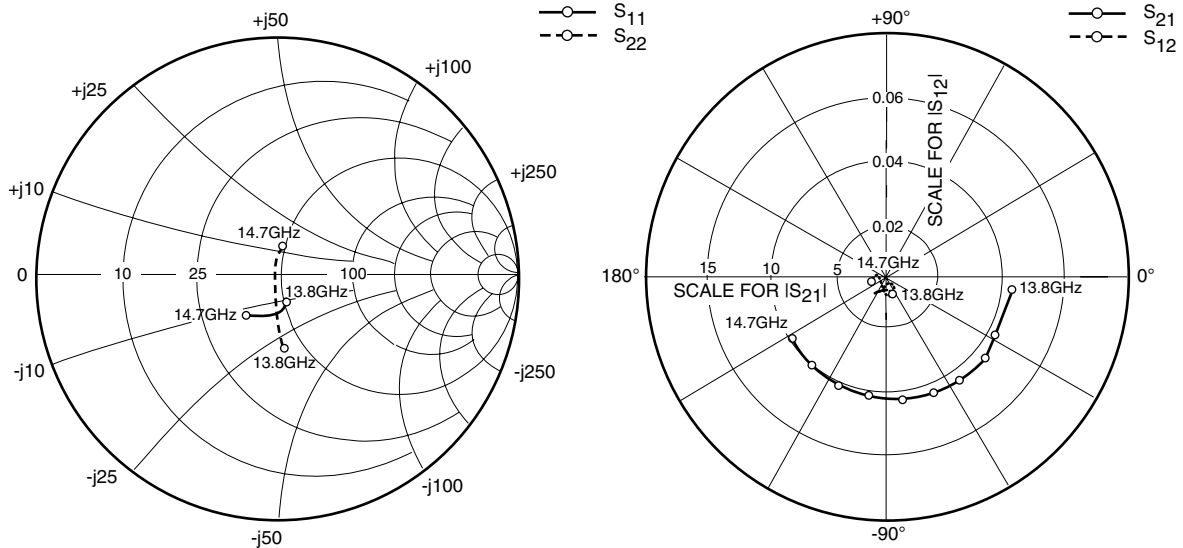


### Recommended Bias Circuit



# FMM5017VF

GaAs MMIC

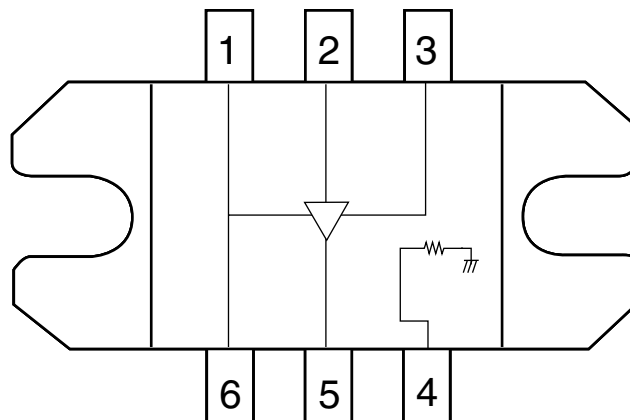


## S-PARAMETERS

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

FREQUENCY (MHZ)	S11		S21		S12		S22	
	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

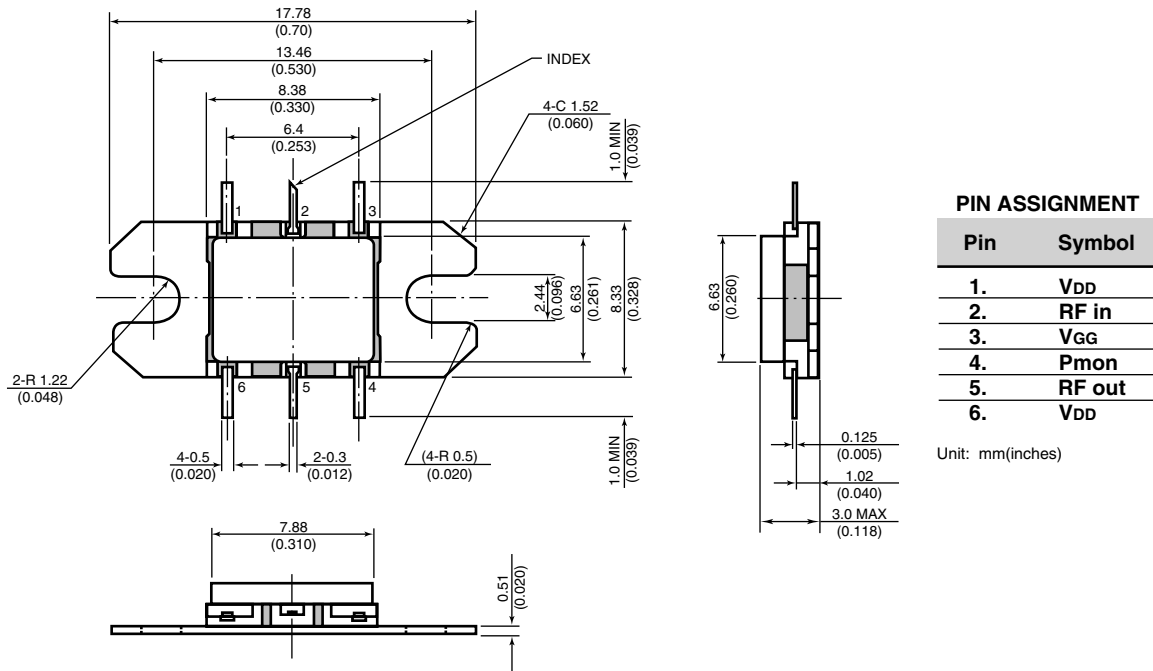
## Pin Configuration



# FMM5017VF

GaAs MMIC

## Case Style "VF"



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