

FEATURES

- High Output Power: 36dBm (typ.)
- High Linear Gain: 30dB (typ.)
- Low Input VSWR
- Small Hermetic Metal-Ceramic Package (VF)

DESCRIPTION

The FMM5046VF is a MMIC amplifier designed for PCS/PCN and W-CDMA applications as a driver or output stage in the 1.7 to 2.3GHz band. The output stage is partially matched for this device.

**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}	10	dBm
Storage Temperature	T _{stg}	-55 to +125	°C
Operating Case Temperature	T _{op}	-40 to +70	°C

Fujitsu recommends the following conditions for the reliable operation of GaAs modules:

1. The drain operating voltage (V_{DD}) should not exceed 10 volts.
2. The gate operating voltage (V_{GG}) should not exceed -5 volts.

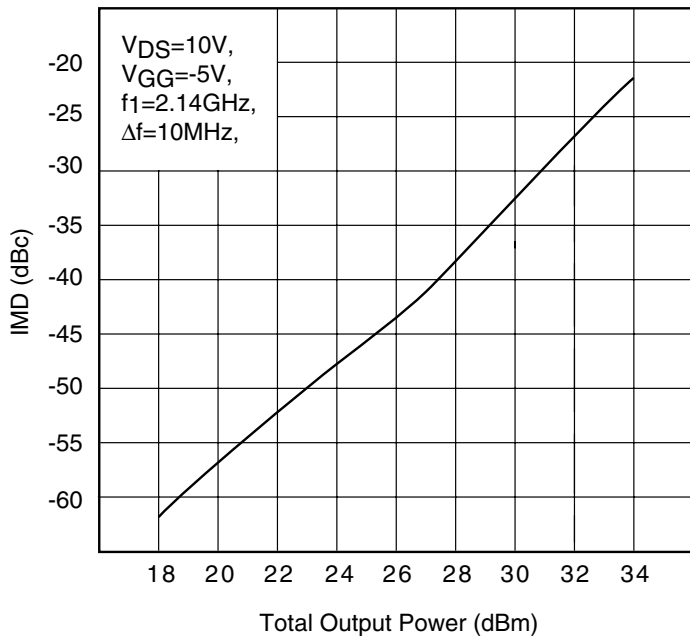
ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		2.2			GHz
Output Power at 1dB G.C.P.	P _{1dB}	V _{DD} = 10V V _{GG} = -5V f = 2.2GHz	35.0	36.0	-	dBm
Linear Gain	GL		29.0	30.0	-	dB
Input VSWR	VSWR _i		-	1.5:1	-	-
DC Input Current	I _{DD}		-	1.1	-	A
DC Input Current	I _{GG}		-	35	-	mA

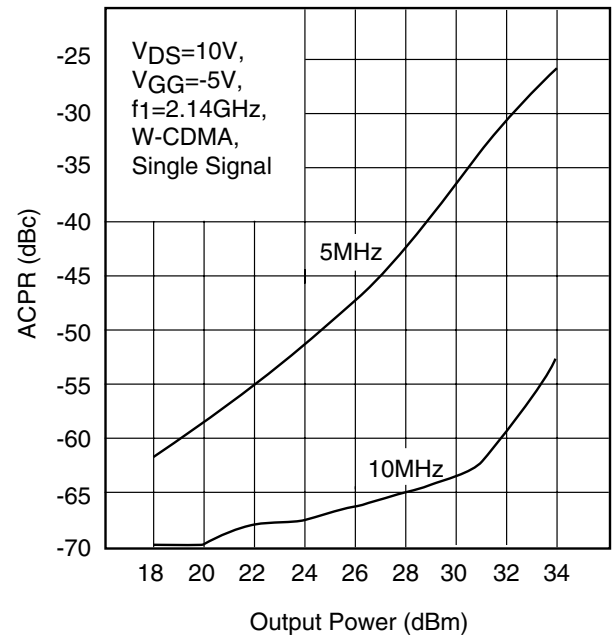
CASE STYLE: VF

G.C.P.: Gain Compression Point

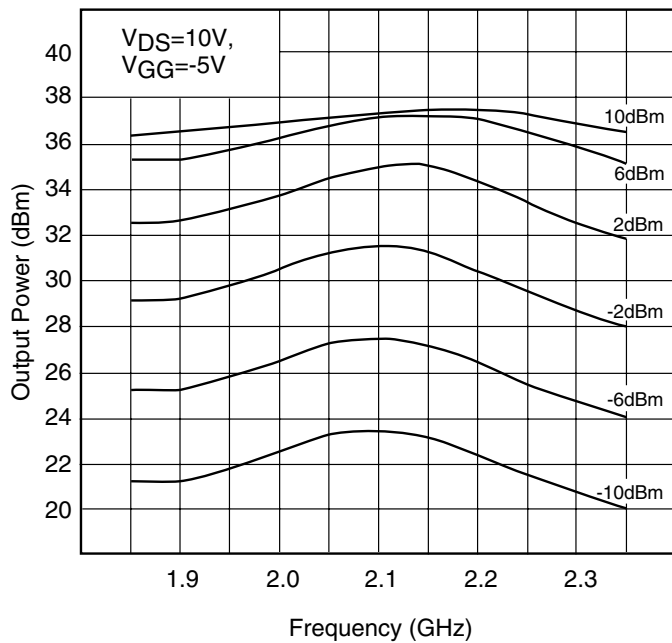
IMD vs. OUTPUT POWER



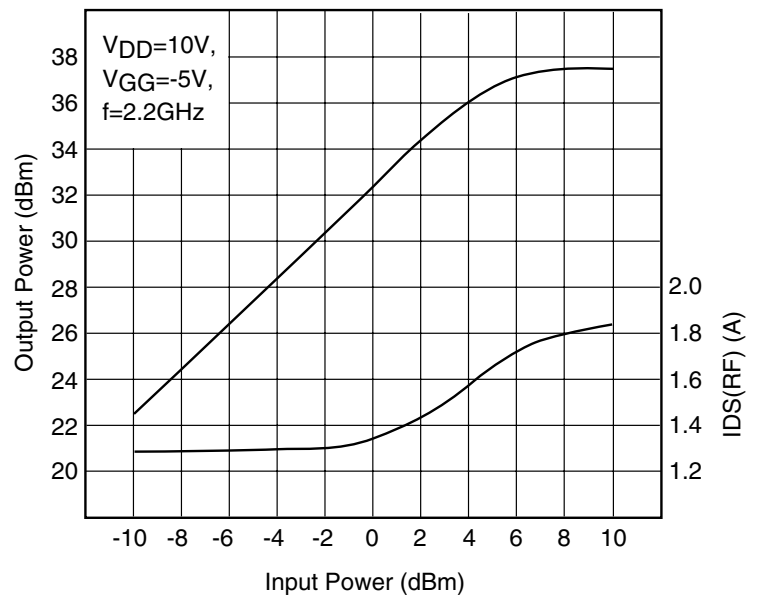
ACPR vs. OUTPUT POWER

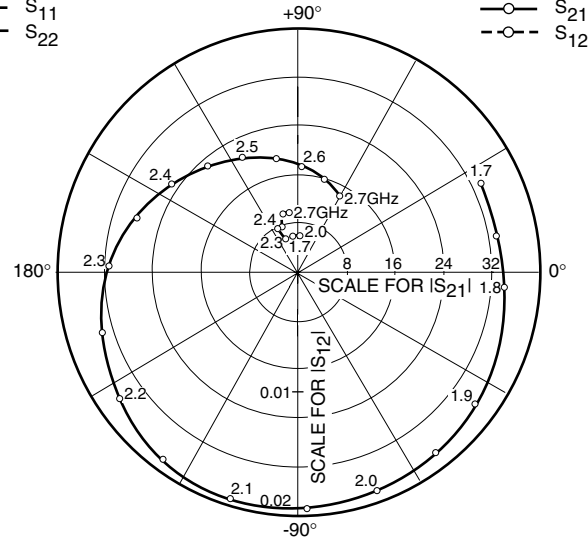
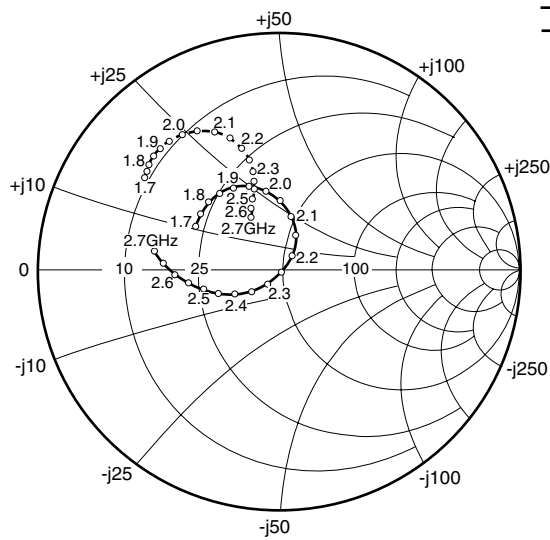


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER & IDSRF vs. INPUT POWER





S-PARAMETERS

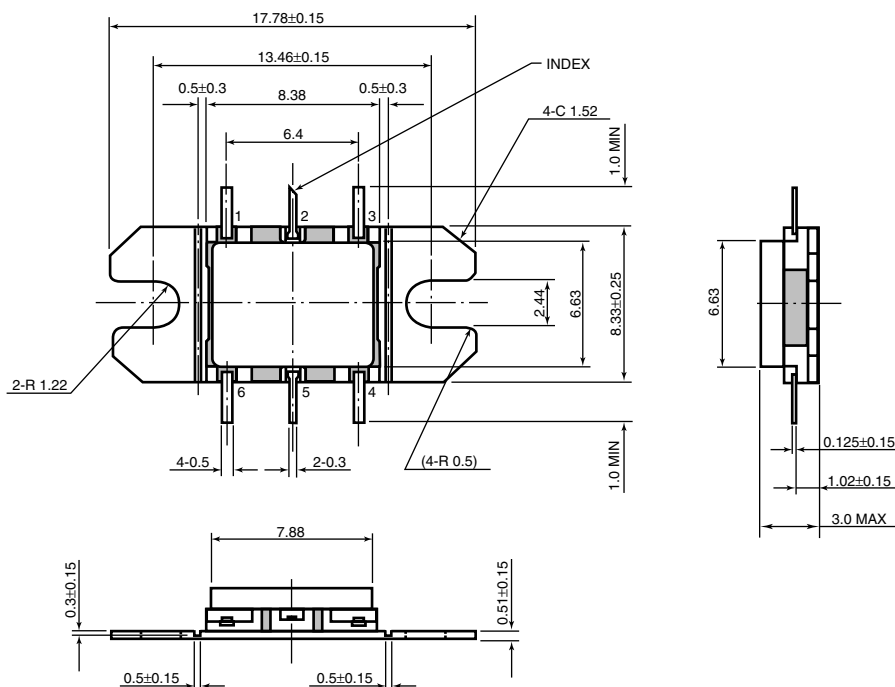
$V_{DD} = 10V$, $V_{GG} = -5V$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1700	.391	153.3	33.278	26.0	.003	100.8	.684	144.4
1800	.406	136.9	34.121	-4.1	.003	98.4	.702	140.4
1900	.390	119.5	36.079	-36.5	.003	94.1	.714	134.0
2000	.333	100.1	38.154	-70.3	.003	91.1	.702	125.1
2100	.224	77.6	38.680	-107.1	.003	94.1	.642	114.9
2200	.076	49.7	36.229	-145.1	.003	102.5	.537	107.0
2300	.079	-130.6	31.303	178.7	.003	110.4	.431	104.6
2400	.212	-151.5	25.761	145.9	.004	114.8	.357	107.3
2500	.326	-165.3	21.220	116.8	.004	112.8	.317	111.2
2600	.433	-177.1	17.159	88.5	.005	105.8	.283	114.6
2700	.532	171.4	14.146	62.3	.005	100.0	.248	118.4
2800	.617	160.0	11.311	36.1	.005	97.0	.207	127.0
2900	.693	149.0	9.165	11.7	.005	91.2	.185	143.7

FMM5046VF

GaAs MMIC

Case Style "VF"



PIN ASSIGNMENT

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

Unit: mm(inches)

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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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