

FMM5049VT

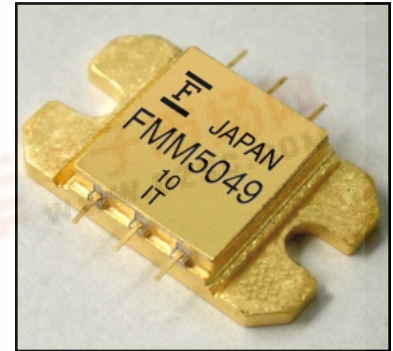
Power Amplifier MMIC

FEATURES

- High Output Power: $P_{out} = 41.0\text{dBm}$ (Typ.)
- High Linear Gain: $GL = 33.0\text{dB}$ (Typ.)
- Broad Band: 1.8 to 2.3GHz
- Hermetically Sealed Package

DESCRIPTION

The FMM5049VT is a high-gain, wide band, three-stage MMIC amplifier designed for PCS/PCN and W-CDMA applications as a driver or output stage in the 1.8-2.3GHz band. The output stage is partially matched for this device. This product is uniquely suited for use in base station amplifiers as it offers high gain, long term reliability and ease of use.



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

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DD}		+12	V
Gate-Source Voltage	V_{GG}		-7	V
Input Power	P_{in}		+15	dBm
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$
Operating Backside Temperature	T_{op}		-40 to +85	$^\circ\text{C}$

Fujitsu recommends the following conditions for the long term reliable operation of GaAs FETs:

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

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

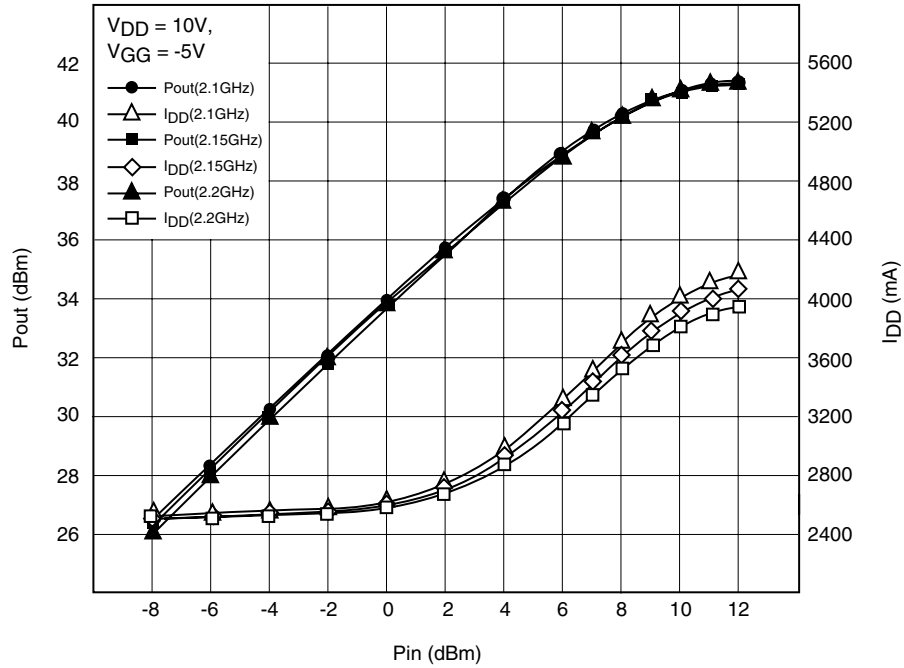
Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Output Power	P_{out}	$V_{DD1,2} = 10\text{V}$ $f = 2.2\text{GHz}$ $P_{in} = 12\text{dBm}$	39.0	41.0	-	dBm
Linear Gain (Note 1)	G_L		30.0	33.0	-	dB
Drain Current	I_{DD}		-	4000	-	mA
Gate Current	I_{GG}		-	70	-	mA
DC Input Current	$I_{DD}(\text{DC})$		Without RF	-	2500	-

Note 1 $P_{in} \leq -6\text{dBm}$

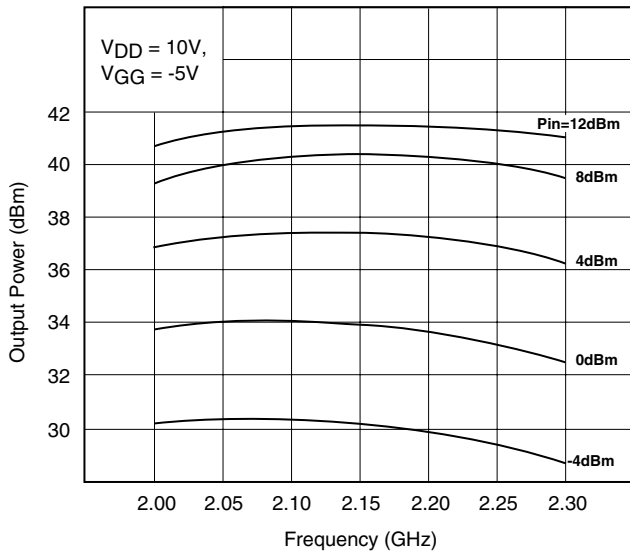
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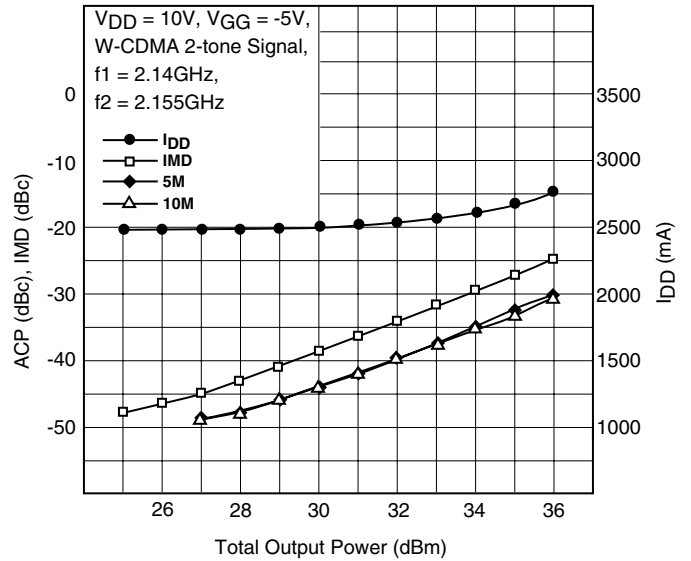
OUTPUT POWER, IDD vs. INPUT POWER @ W-CDMA BAND(TUNED)



OUTPUT POWER vs. FREQUENCY @ W-CDMA BAND(TUNED)

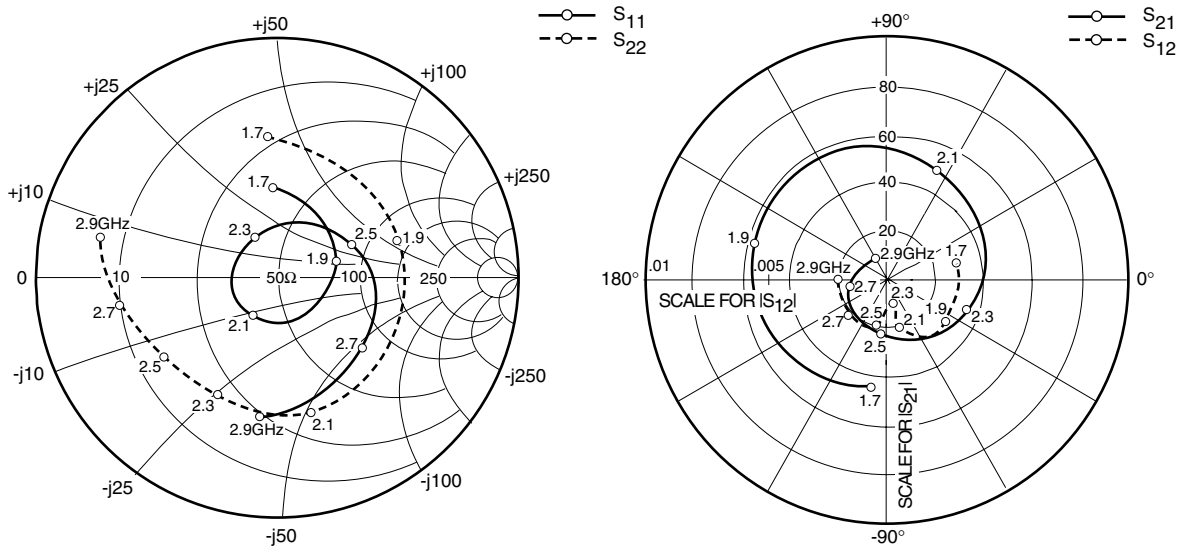


ACP, IMD & IDD vs. OUTPUT POWER @ W-CDMA BAND(TUNED)



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S-PARAMETERS

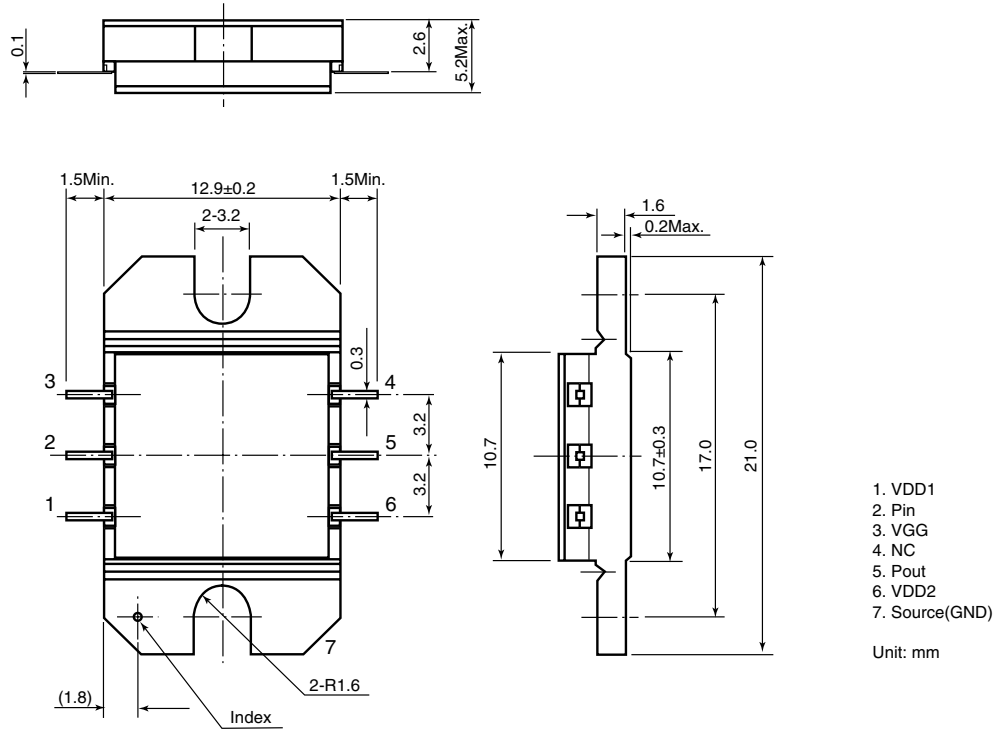
$V_{DD1,2} = 10V, V_{GG} = -5V$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1700	.374	92.6	44.398	-99.2	.003	14.1	.594	93.0
1800	.322	65.1	51.515	-144.4	.003	-4.0	.543	63.0
1900	.252	15.6	57.842	165.5	.003	-34.5	.523	17.2
2000	.195	-55.3	56.725	114.1	.003	-51.8	.562	-36.7
2100	.188	-121.9	49.890	65.6	.002	-73.8	.578	-75.4
2200	.182	179.1	41.985	21.2	.001	-69.6	.567	-99.7
2300	.192	118.2	35.139	-20.9	.001	-78.6	.543	-116.1
2400	.241	65.6	28.492	-62.0	.001	-73.6	.559	-128.5
2500	.338	23.9	22.187	-96.5	.002	-102.5	.570	-144.0
2600	.408	-11.0	19.007	-134.8	.002	-125.7	.604	-156.5
2700	.463	-39.6	14.903	-167.5	.002	-136.7	.663	-170.2
2800	.523	-68.2	11.450	155.9	.002	-163.6	.709	177.1
2900	.580	-96.6	9.734	122.1	.002	179.7	.747	167.1

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Case Style "VT"



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- 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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