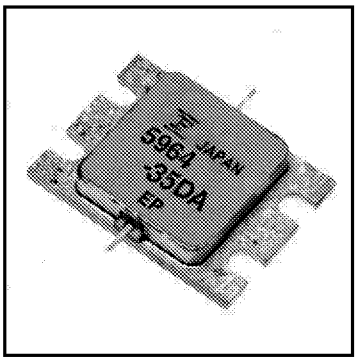
FLM5964-35DA
Internally Matched Power GaAs FETs

FUJITSU

FEATURES

- High Output Power: P_{1dB} = 45.5dBm (Typ.)
- High Gain: G_{1dB} = 7.0dB (Typ.)
- High PAE: η_{add} = 35% (Typ.)
- Low IM_3 = -45dBc@Po = 34.5dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-35DA is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

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

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

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	T_c = 25°C	115.4	W
Storage Temperature	T_{stg}		-65 to +175	°C
Channel Temperature	T_{ch}		175	°C

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

1. The drain-source operating voltage (V_{DS}) should not exceed 10 volts.
2. The forward and reverse gate currents should not exceed 26mA and -23.2mA respectively with gate resistance of 10Ω.

ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	18.0	26.0	A
Transconductance	g_m	V_{DS} = 5V, I_{DS} =8000mA	-	8000	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} =960mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -960μA	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS} =10V, I_{DS} = 0.55 I_{DSS} (Typ.), f = 5.9 ~ 6.4 GHz, Z_S=Z_L=50 ohm	44.5	45.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		6.0	7.0	-	dB
Drain Current	I_{dsr}		-	8000	9000	mA
Power-added Efficiency	ηadd		-	35	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 6.4 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 34.5dBm S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	100	°C

CASE STYLE: IK

G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

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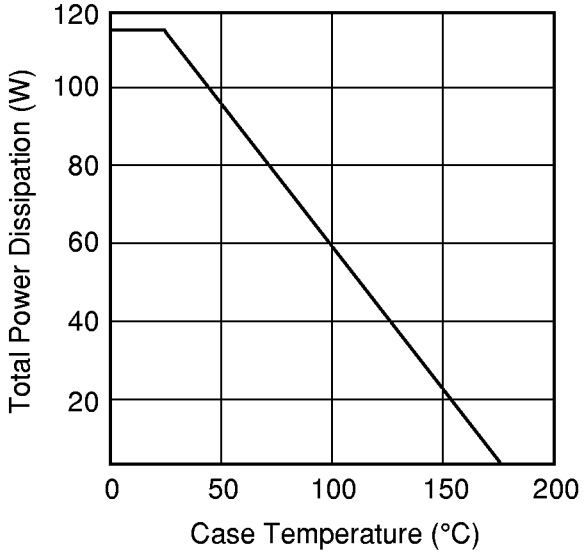
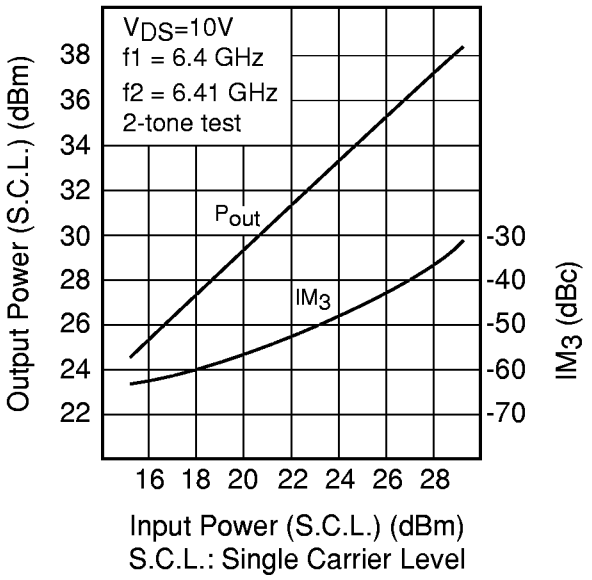
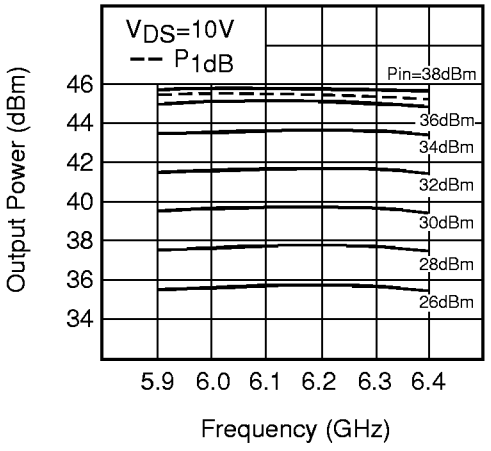
POWER DERATING CURVE



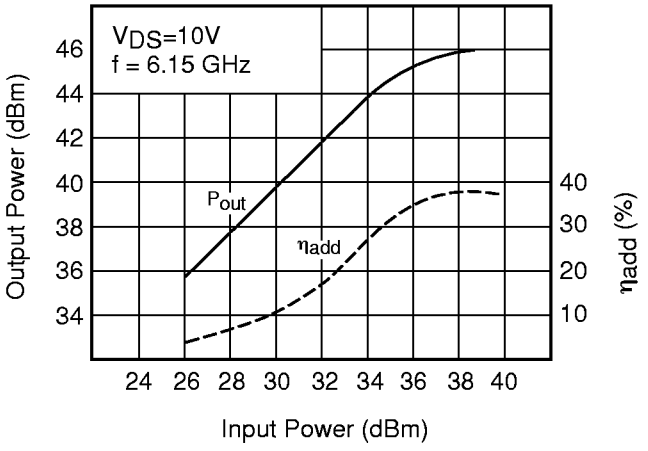
OUTPUT POWER & IM_3 vs. INPUT POWER

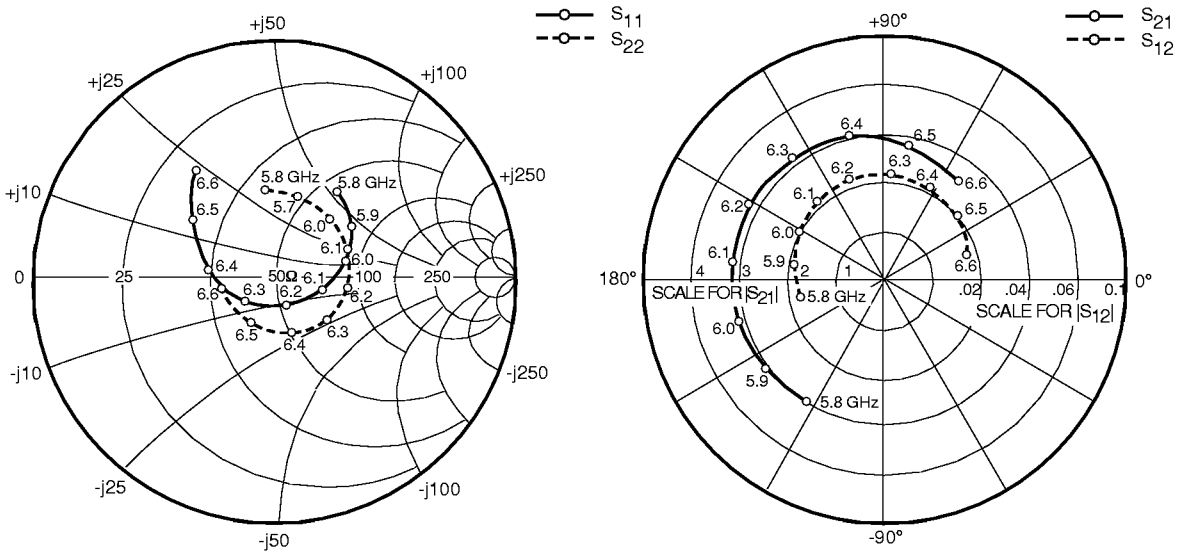


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

V_{DS} = 10V, I_{DS} = 8000mA

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5800	0.449	55.9	3.016	-124.1	0.073	-168.8	0.386	97.6
5900	0.384	36.2	3.113	-143.9	0.078	172.9	0.362	74.9
6000	0.298	14.6	3.188	-164.5	0.081	152.7	0.339	50.2
6100	0.204	-14.6	3.241	173.8	0.086	132.1	0.317	23.5
6200	0.114	-69.1	3.252	151.5	0.087	110.8	0.294	-5.1
6300	0.157	-148.5	3.202	128.3	0.087	88.0	0.260	-36.0
6400	0.290	170.3	3.066	103.8	0.083	64.6	0.223	-74.1
6500	0.438	145.8	2.825	78.9	0.079	40.3	0.199	-124.0
6600	0.569	125.6	2.487	54.1	0.070	16.1	0.232	-178.5

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Case Style "IK"

Metal-Ceramic Hermetic Package