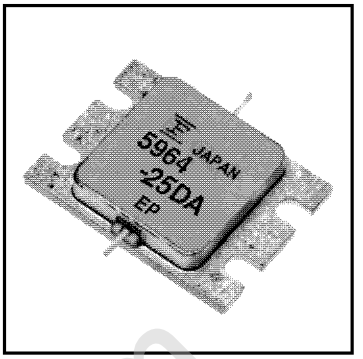
FLM5964-25DA
Internally Matched Power GaAs FETs

FUJITSU

FEATURES

- High Output Power: P_{1dB} = 44dBm (Typ.)
- High Gain: G_{1dB} = 8.5dB (Typ.)
- High PAE: η_{add} = 33% (Typ.)
- Low IM_3 = -45dBc@Po = 32dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-25DA 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	93.7	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 24.0 and -11.2 mA respectively with gate resistance of 25Ω.

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	-	11.4	17.0	mA
Transconductance	g_m	V_{DS} = 5V, I_{DS} =6800mA	-	5800	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} =600mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -600μA	-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	43	44	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.5	8.5	-	dB
Drain Current	I_{dsr}		-	6200	7600	mA
Power-added Efficiency	η_{add}		-	33	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 6.4 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 32dBm S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.4	1.6	°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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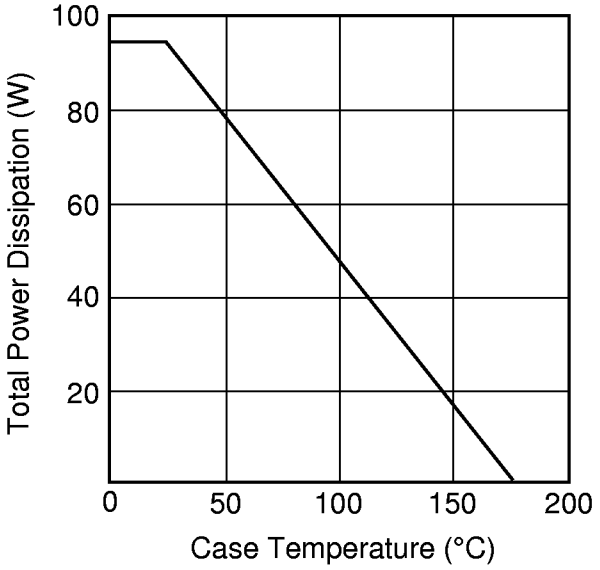
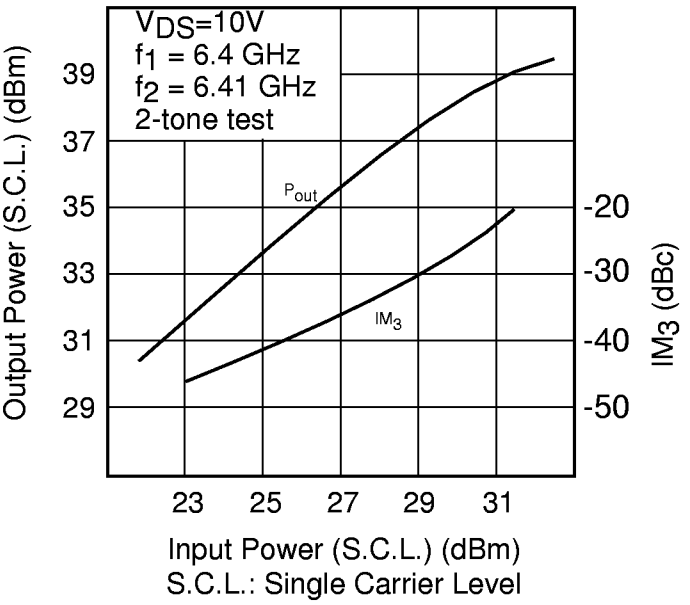
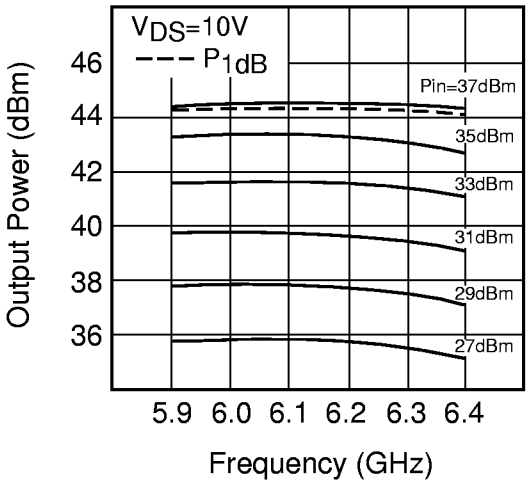
POWER DERATING CURVE



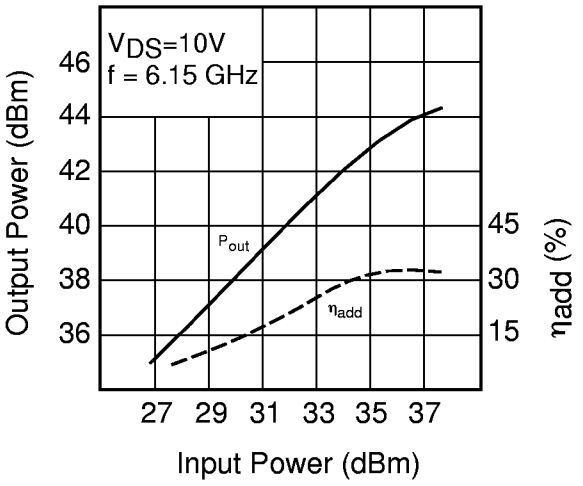
OUTPUT POWER & IM_3 vs. INPUT POWER

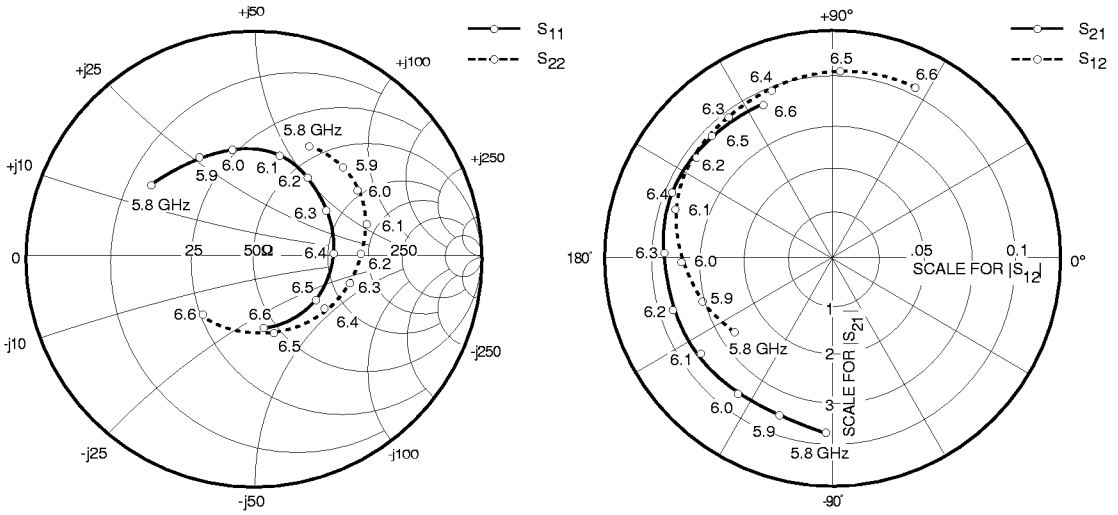


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

V_{DS} = 10V, I_{DS} = 6.2A

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5800	.465	141.4	3.378	-92.0	.070	-144.5	.446	63.1
5900	.431	120.8	3.452	-109.7	.076	-162.2	.446	47.9
6000	.403	99.5	3.522	-127.0	.081	-179.2	.432	33.6
6100	.376	78.5	3.591	-145.1	.085	162.9	.410	18.8
6200	.348	56.3	3.670	-162.9	.090	145.5	.375	3.6
6300	.307	32.5	3.742	177.8	.094	127.6	.331	-15.3
6400	.259	3.1	3.835	158.0	.099	109.2	.274	26.1
6500	.207	-37.4	3.838	136.5	.103	88.4	.224	-57.3
6600	.203	-95.0	3.765	113.6	.105	66.3	.221	-104.0

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Case Style "IK"
Metal-Ceramic Hermetic Package