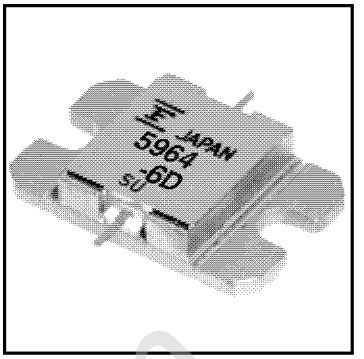
FLM5964-6D
Internally Matched Power GaAs FETs

FUJITSU

FEATURES

- High Output Power: P_{1dB} = 38.0dBm (Typ.)
- High Gain: G_{1dB} = 10.0dB (Typ.)
- High PAE: η_{add} = 36% (Typ.)
- Low IM_3 = -45dBc@Po = 27dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-6D 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	31.2	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 6.0 and -2.8 mA respectively with gate resistance of 100Ω.

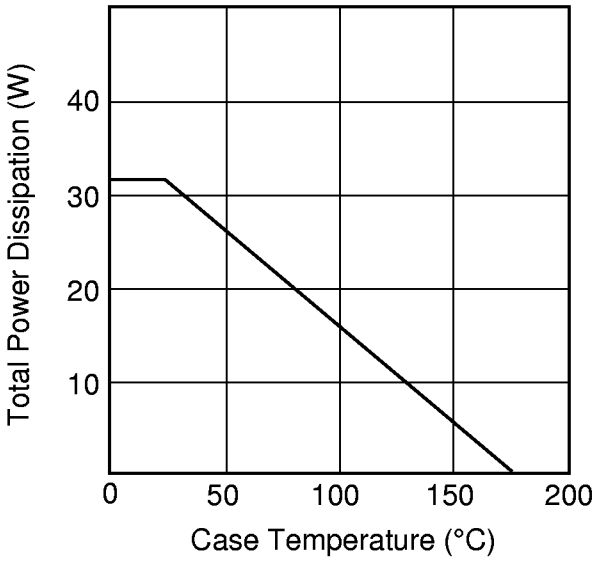
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	2850	4250	mA
Transconductance	g_m	V_{DS} = 5V, I_{DS} =1700mA	-	1450	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} =150mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -150μA	-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	37.0	38.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		9.0	10.0	-	dB
Drain Current	I_{dsr}		-	1550	1990	mA
Power-added Efficiency	ηadd		-	36	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 6.4 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 27dBm S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	4.0	4.8	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	80	°C

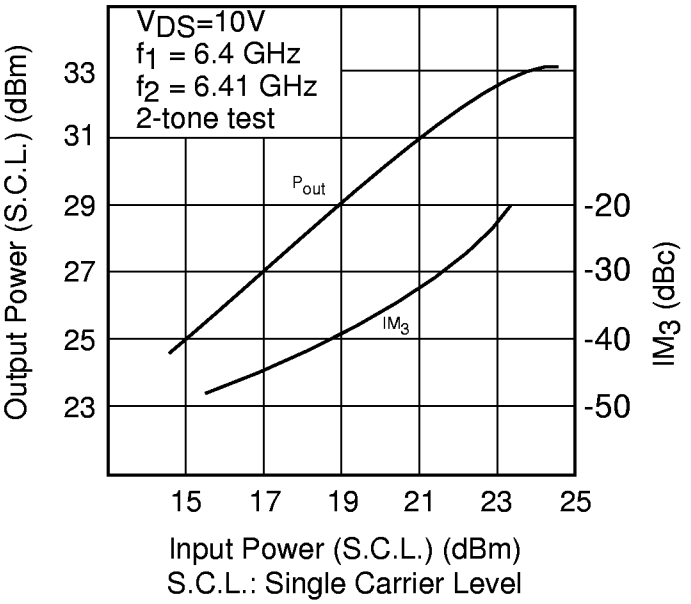
CASE STYLE: IB

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

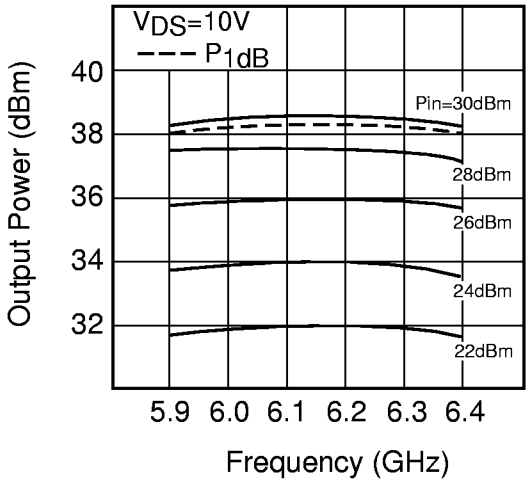
POWER DERATING CURVE



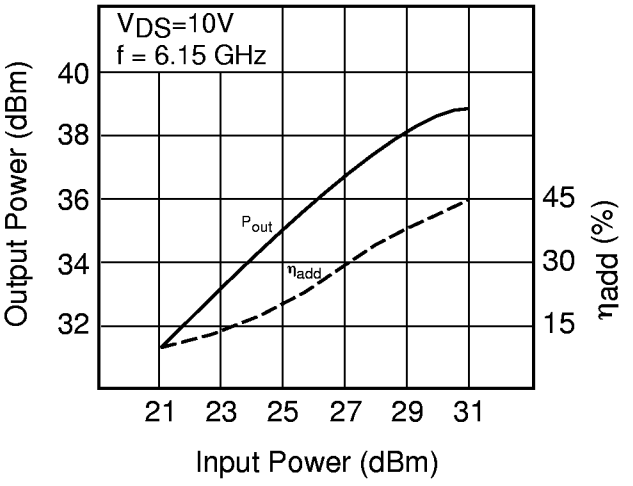
OUTPUT POWER & IM_3 vs. INPUT POWER

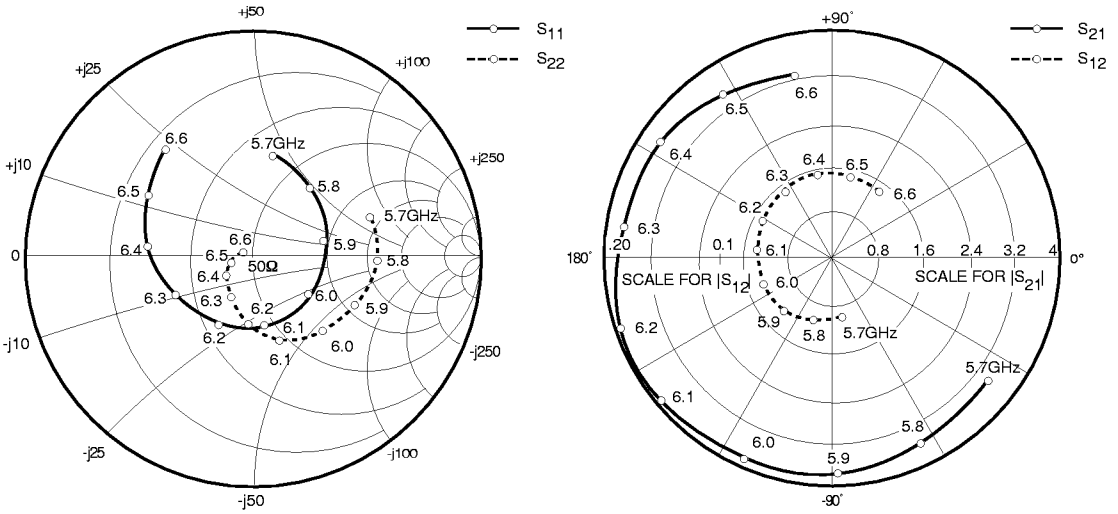


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

V_{DS} = 10V, I_{DS} = 1550mA

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.469	80.1	3.454	-39.5	.050	-79.4	.561	19.0
5800	.397	49.7	3.559	-64.4	.056	-106.4	.537	-3.0
5900	.335	13.1	3.852	-88.6	.061	-132.4	.497	-26.3
6000	.301	-31.5	3.891	-112.5	.067	-159.2	.441	-49.3
6100	.315	-78.1	3.953	-140.0	.070	175.5	.380	-72.9
6200	.368	-120.0	3.963	-163.5	.072	150.7	.300	-96.4
6300	.445	-154.5	3.752	171.3	.077	124.3	.227	-119.5
6400	.511	176.1	3.653	146.5	.077	99.0	.150	-144.1
6500	.571	150.7	3.467	123.2	.075	74.9	.089	-165.9
6600	.612	127.8	3.276	100.2	.071	54.6	.036	152.3

2

Case Style "IB"
Metal-Ceramic Hermetic Package