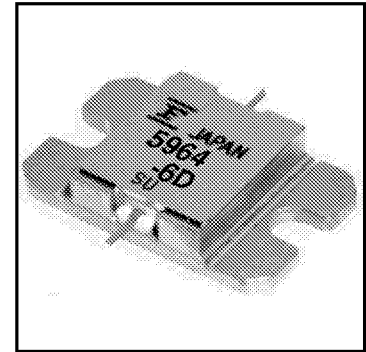


### FEATURES

- High Output Power:  $P_{1dB} = 38.0\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 10.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 36\%$  (Typ.)
- Low  $IM_3 = -45\text{dBc}@P_o = 27\text{dBm}$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- 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 $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	$P_T$	$T_C = 25^\circ\text{C}$	31.2	W
Storage Temperature	$T_{stg}$		-65 to +175	$^\circ\text{C}$
Channel Temperature	$T_{ch}$		175	$^\circ\text{C}$

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 100 $\Omega$ .

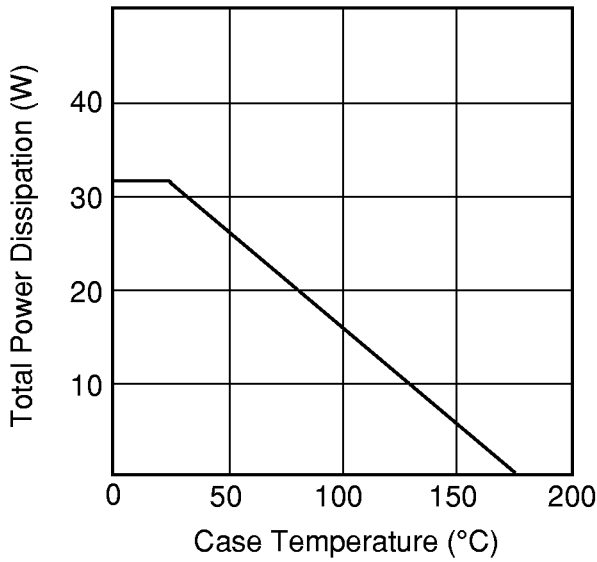
### ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$ )

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	2850	4250	mA
Transconductance	$g_m$	$V_{DS} = 5\text{V}, I_{DS} = 1700\text{mA}$	-	1450	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS} = 150\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -150\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V},$ $I_{DS} = 0.55 I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4\text{GHz},$ $Z_S = Z_L = 50\text{ohm}$	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	$\eta_{add}$		-	36	-	%
Gain Flatness	$\Delta G$		-	-	$\pm 0.6$	dB
3rd Order Intermodulation Distortion	$IM_3$	$f = 6.4\text{GHz}, \Delta f = 10\text{MHz}$ 2-Tone Test $P_{out} = 27\text{dBm S.C.L.}$	-42	-45	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	4.0	4.8	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	$\Delta T_{ch}$	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	80	$^\circ\text{C}$

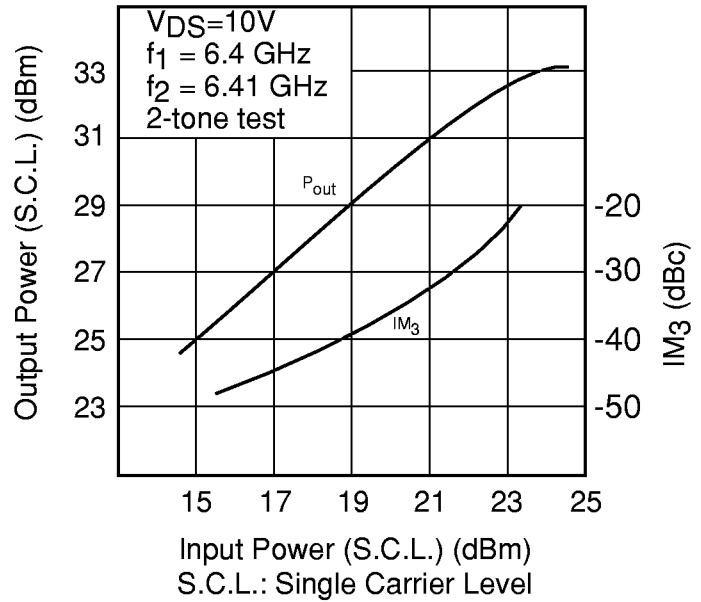
CASE STYLE: IB

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

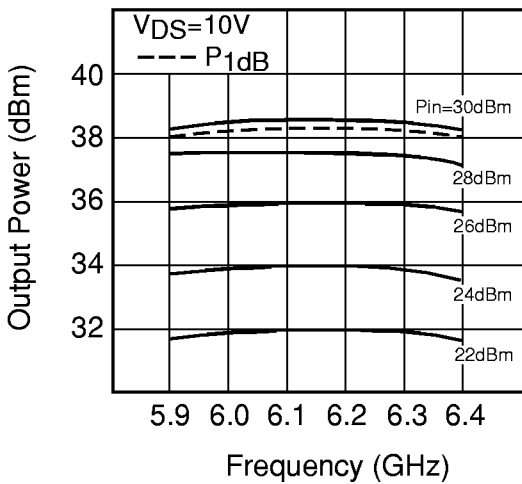
**POWER DERATING CURVE**



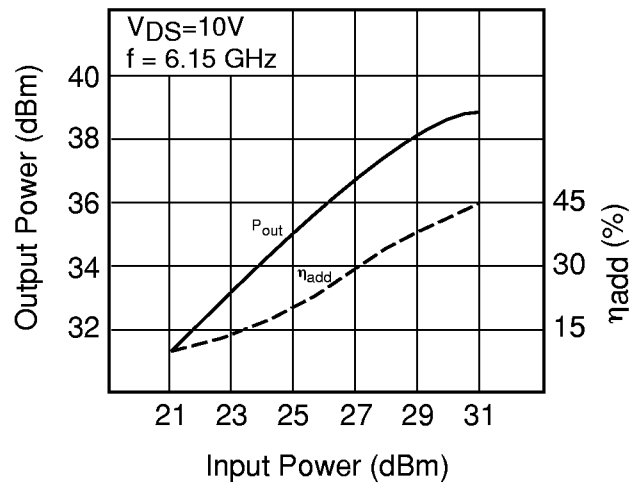
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**



**OUTPUT POWER vs. FREQUENCY**

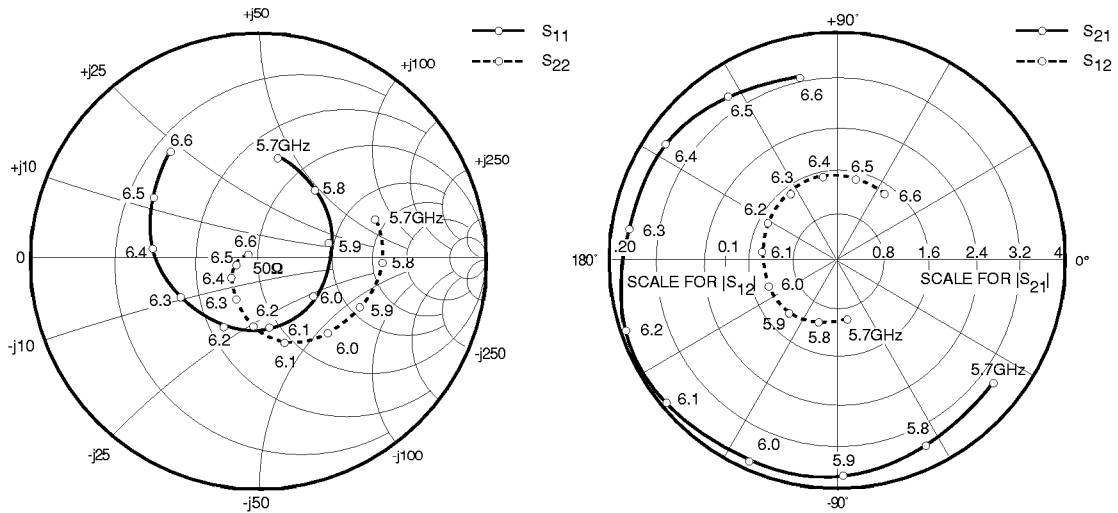


**OUTPUT POWER vs. INPUT POWER**



# FLM5964-6D

## Internally Matched Power GaAs FETs



### S-PARAMETERS

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

FREQUENCY (MHZ)	S11		S21		S12		S22	
	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

**Case Style "IB"**  
Metal-Ceramic Hermetic Package

