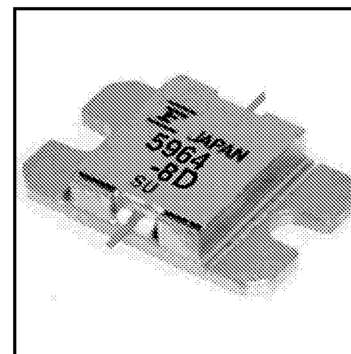
FLM5964-8D
Internally Matched Power GaAs FETs

FUJITSU



FEATURES

- High Output Power: P_{1dB} = 39.0dBm (Typ.)
- High Gain: G_{1dB} = 8.0dB (Typ.)
- High PAE: η_{add} = 30% (Typ.)
- Low IM_3 = -45dBc@Po = 28dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM5964-8D 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	42.8	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 16.0 and -4.4 mA respectively with gate resistance of 100Ω.

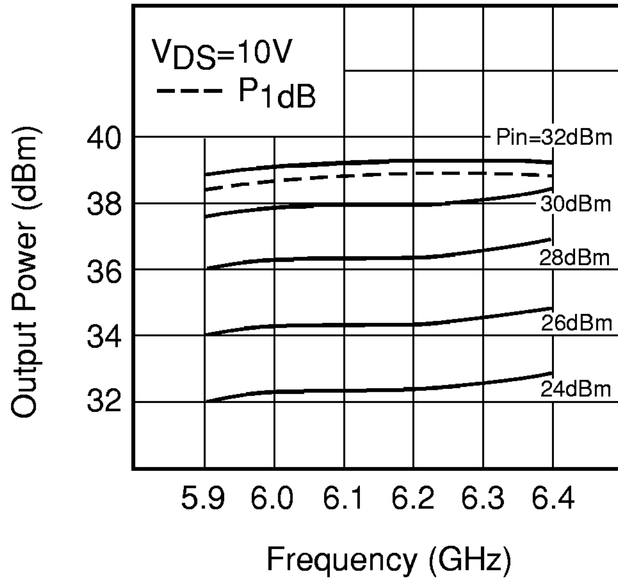
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	3600	5400	mA
Transconductance	g_m	V_{DS} = 5V, I_{DS} =2200mA	-	2000	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} =180mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -180µA	-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	38	39	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.0	8.0	-	dB
Drain Current	I_{dsr}		-	2200	2600	mA
Power-added Efficiency	η_{add}		-	30	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 6.4 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 28dBm S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	3.0	3.5	°C/W

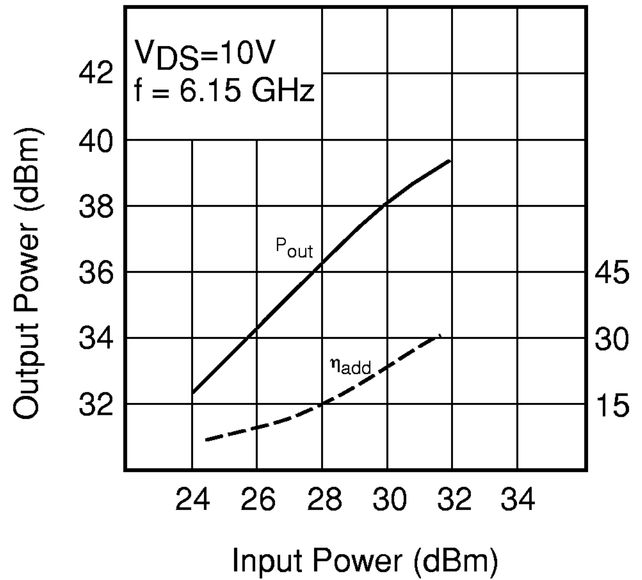
CASE STYLE: IB

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

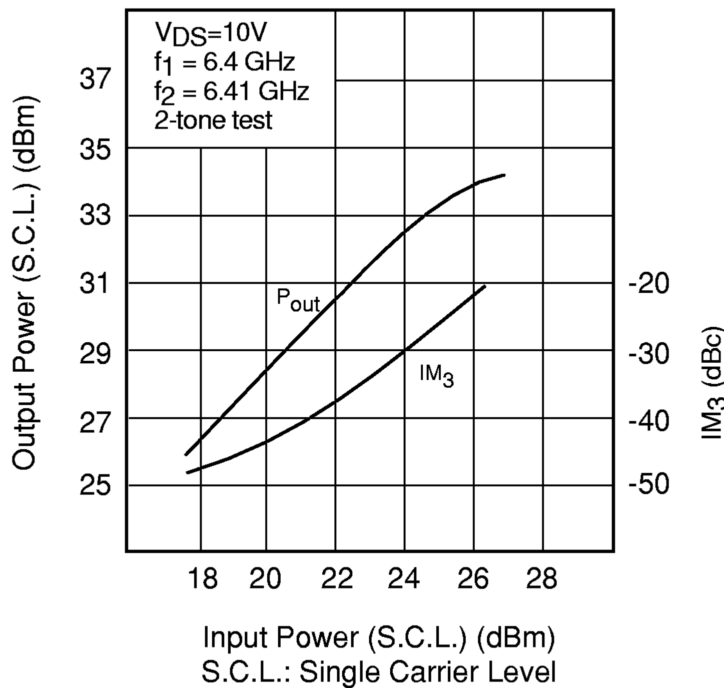
OUTPUT POWER vs. FREQUENCY

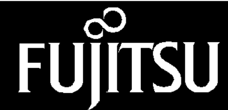


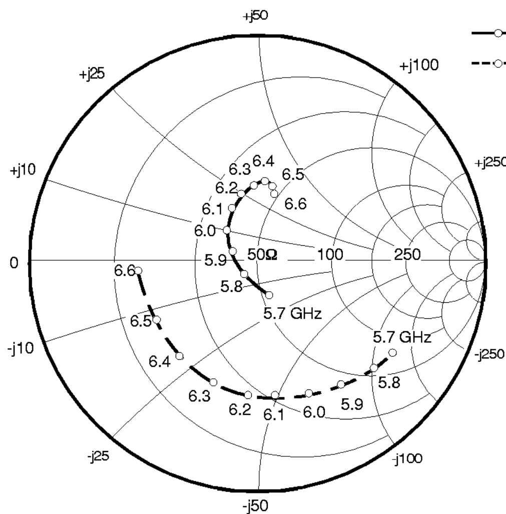
OUTPUT POWER vs. INPUT POWER

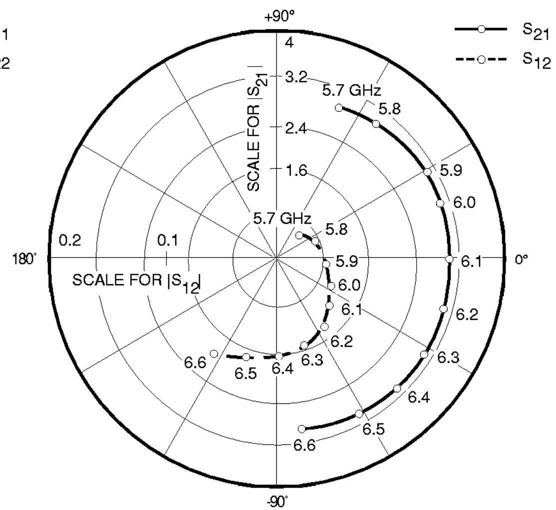


OUTPUT POWER & IM_3 vs. INPUT POWER









S-PARAMETERS

V_{DS} = 10V, I_{DS} = 2200mA

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5800	.08	-131	2.85	50	.03	20	.69	-41
5900	.12	163	2.87	30	.04	-5	.65	-54
6000	.19	133	2.97	16	.05	-22	.62	-66
6100	.25	116	2.99	0	.05	-40	.59	-82
6200	.30	104	3.00	-14	.06	-58	.57	-96
6300	.33	92	2.99	-31	.07	-74	.54	-112
6400	.33	84	3.01	-46	.08	-89	.53	-133
6500	.32	77	3.02	-61	.08	-105	.54	-152
6600	.29	73	2.92	-80	.09	-122	.54	-174

Case Style "IB"

Metal-Ceramic Hermetic Package