

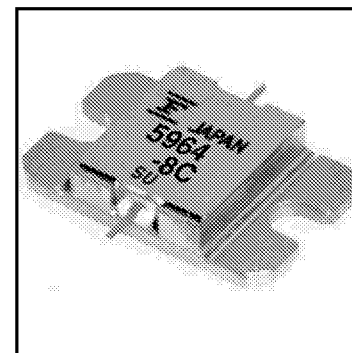
FLM5964-8C

Internally Matched Power GaAs FETs

FUJITSU

FEATURES

- High Output Power: $P_{1dB} = 39.0\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 8.0\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 30\%$ (Typ.)
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-8C 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	$T_c = 25^\circ\text{C}$	42.8	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 16.0 and -4.4 mA respectively with gate resistance of 100Ω .

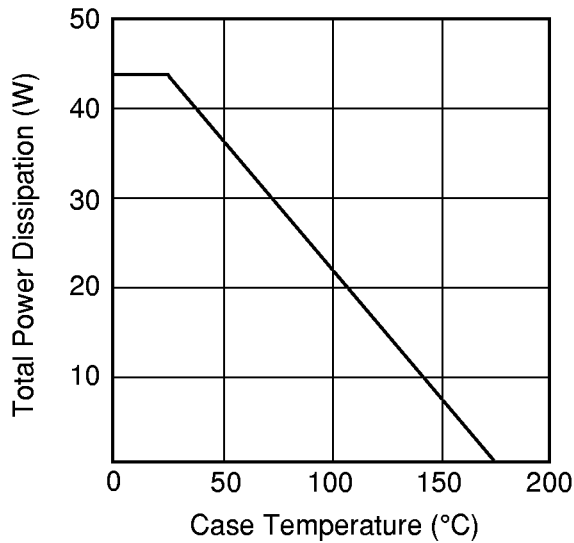
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	3600	5400	mA
Transconductance	g_m	$V_{DS} = 5\text{V}, I_{DS} = 2200\text{mA}$	-	2000	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 5\text{V}, I_{DS} = 180\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -180\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10\text{V},$ $I_{DS} \approx 0.6 I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4\text{GHz},$ $Z_S = Z_L = 50\text{ohm}$	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	-	%
Thermal Resistance	R_{th}	Channel to Case	-	3.0	3.5	$^\circ\text{C/W}$

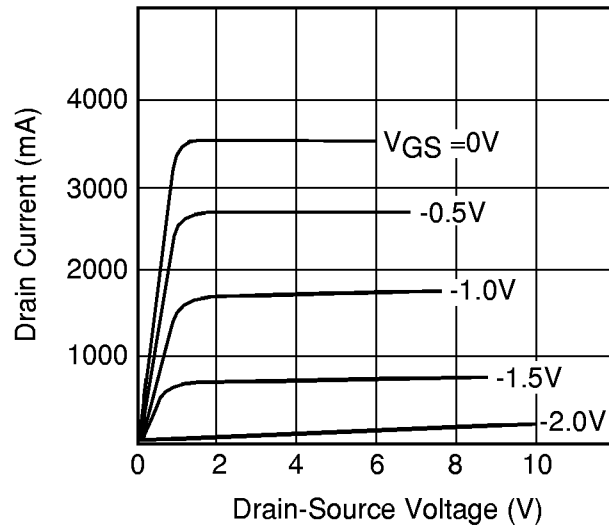
CASE STYLE: IB

G.C.P.: Gain Compression Point

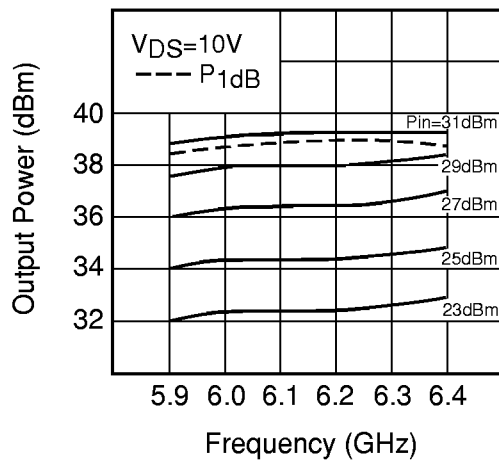
POWER DERATING CURVE



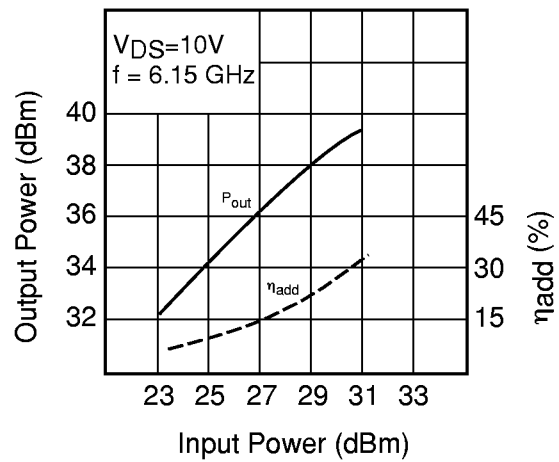
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

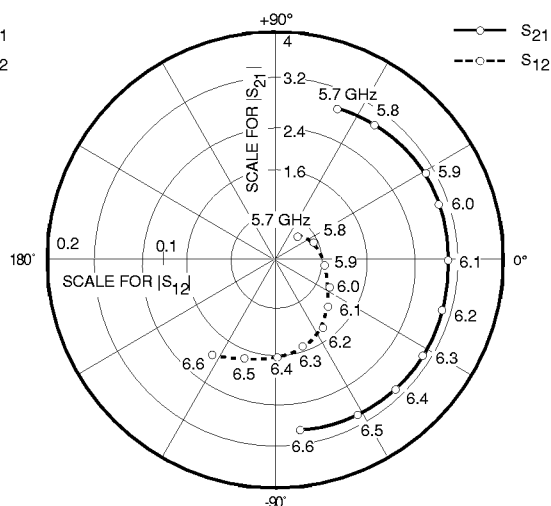
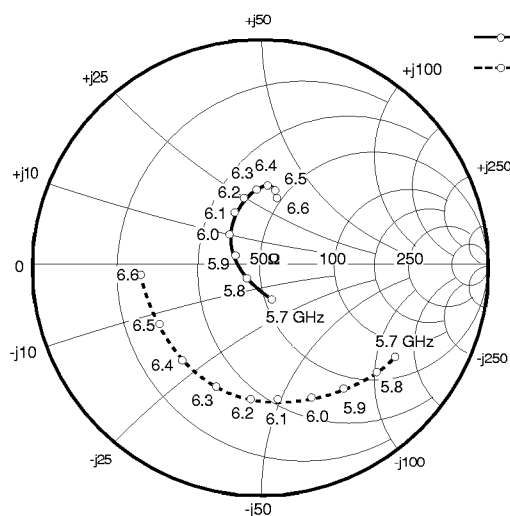


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

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

FREQUENCY (MHZ)	S11		S21		S12		S22	
	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

