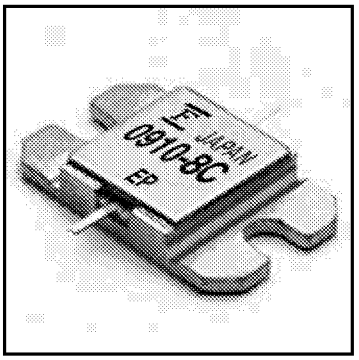
FLM0910-8C
Internally Matched Power GaAs FETs

FUJITSU

FEATURES



- High Output Power: P_{1dB} = 38.5dBm (Typ.)
- High Gain: G_{1dB} = 6.0dB (Typ.)
- High PAE: η_{add} = 24% (Typ.)
- Broad Band: 9.5 ~ 10.5GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed

DESCRIPTION

The FLM0910-8C 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 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.

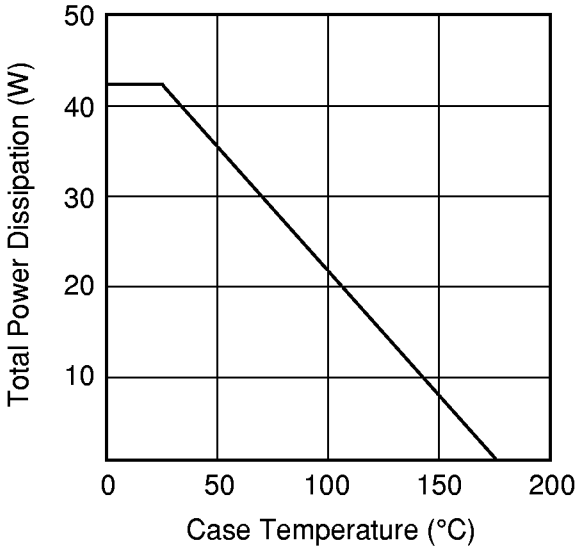
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

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} = 0.6 I_{DSS} (Typ.), f = 9.5 ~ 10.5 GHz, Z_S=Z_L=50 ohm	37.5	38.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		5.0	6.0	-	dB
Drain Current	I_{dsr}		-	2200	2600	mA
Power-added Efficiency	η_{add}		-	24	-	%
Thermal Resistance	R_{th}	Channel to Case	-	3.0	3.5	°C/W

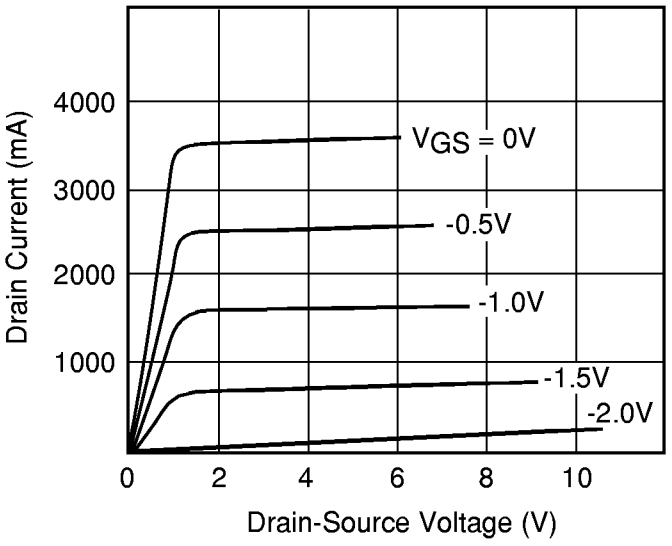
CASE STYLE: IB

G.C.P.: Gain Compression Point

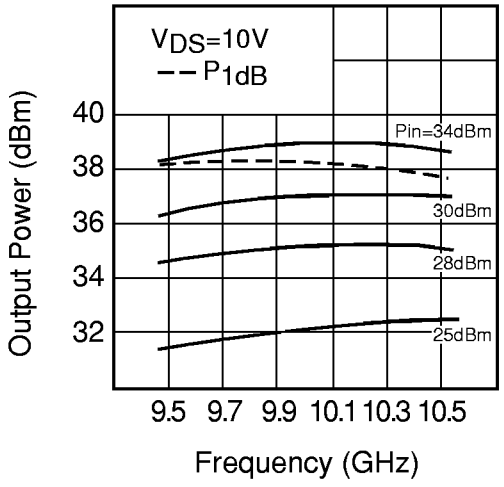
POWER DERATING CURVE



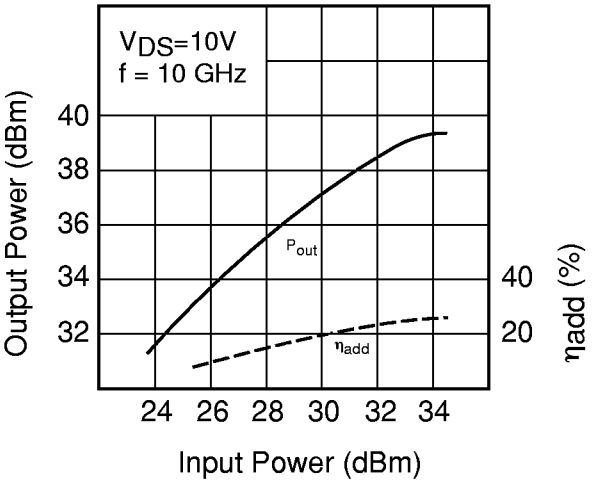
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

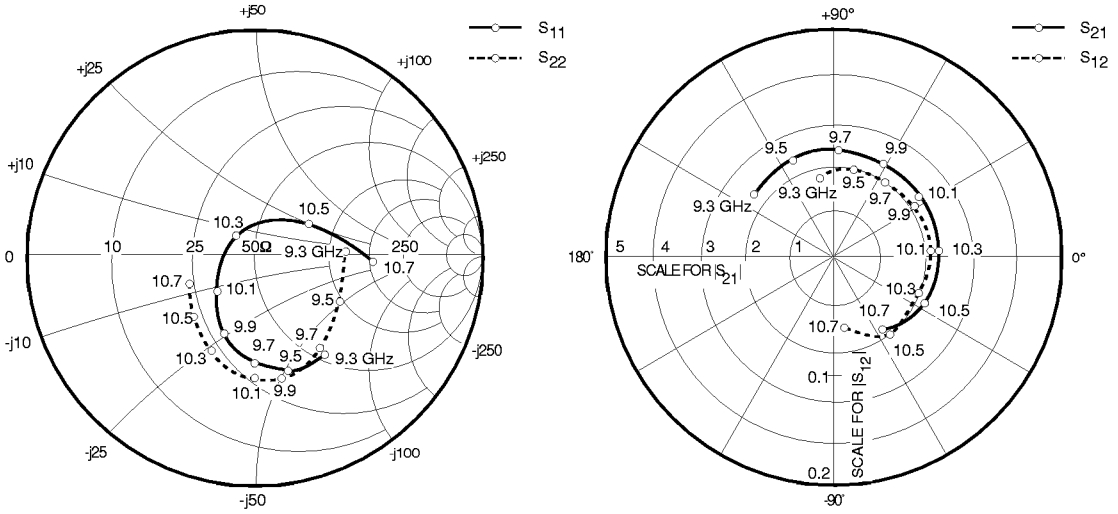


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

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

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
9300	.53	-52	2.32	138	.07	100	.42	2
9500	.52	-73	2.37	114	.08	78	.44	-26
9700	.47	-94	2.39	89	.08	56	.48	-52
9900	.39	-116	2.37	63	.08	33	.52	-75
10100	.26	-143	2.37	36	.09	7	.52	-95
10300	.10	131	2.35	6	.08	-23	.48	-118
10500	.30	30	2.17	-27	.08	-55	.41	-140
10700	.52	-4	1.79	-58	.06	-84	.35	-158

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Case Style "IB"
Metal-Ceramic Hermetic Package