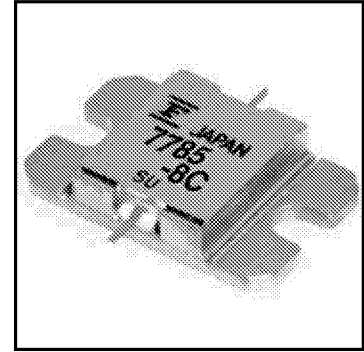


FEATURES

- High Output Power: $P_{1dB} = 39dBm$ (Typ.)
- High Gain: $G_{1dB} = 6.0dB$ (Typ.)
- High PAE: $\eta_{add} = 27%$ (Typ.)
- Broad Band: 7.7 ~ 8.5GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



DESCRIPTION

The FLM7785-8C 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 $T_a=25^\circ C$)

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	$T_C = 25^\circ C$	42.8	W
Storage Temperature	T_{stg}		-65 to +175	$^\circ C$
Channel Temperature	T_{ch}		175	$^\circ C$

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 .

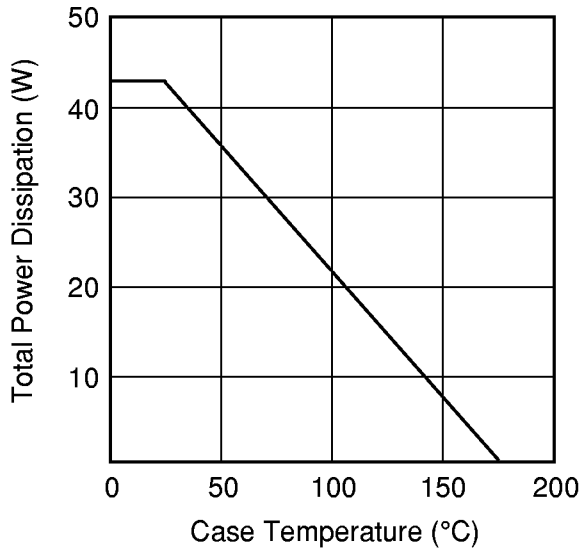
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ C$)

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}	$I_{GS} = -180\mu A$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10V,$ $I_{DS} = 0.6 I_{DSS}$ (Typ.), $f = 7.7 \sim 8.5$ GHz, $Z_S = Z_L = 50$ ohm	38	39	-	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}		-	27	-	%
Thermal Resistance	R_{th}	Channel to Case	-	3.0	3.5	$^\circ C/W$

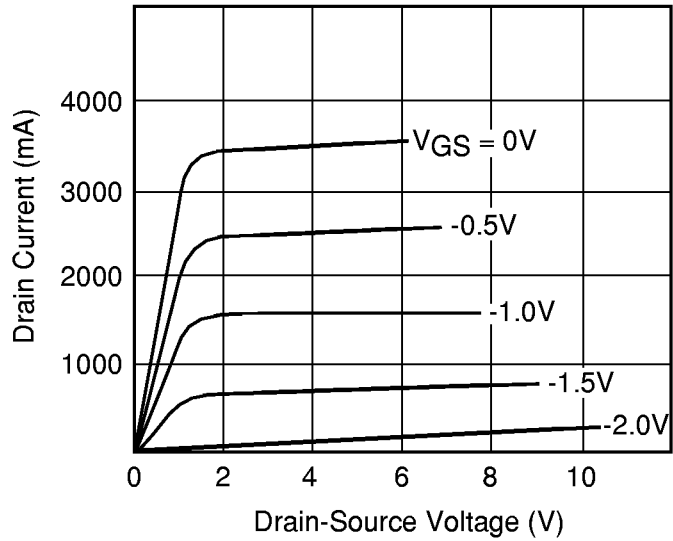
CASE STYLE: IB

G.C.P.: Gain Compression Point

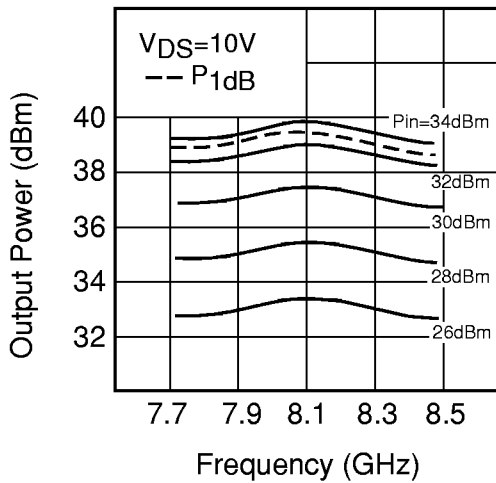
POWER DERATING CURVE



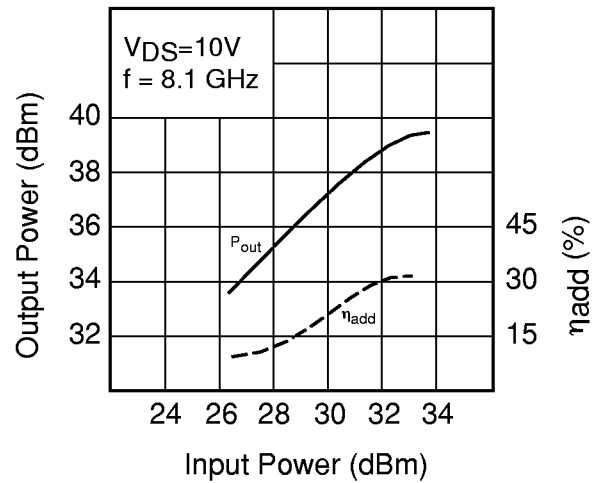
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

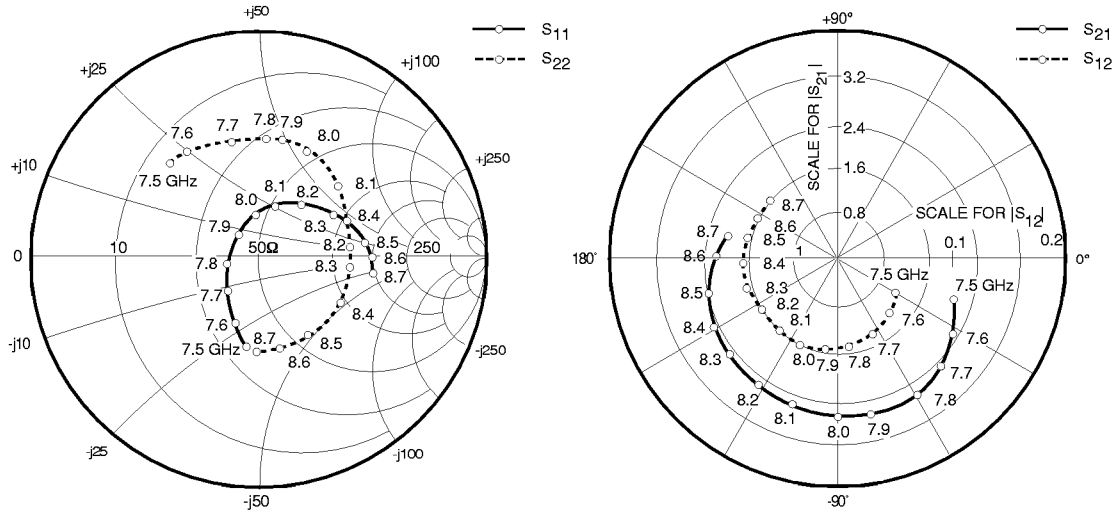


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER



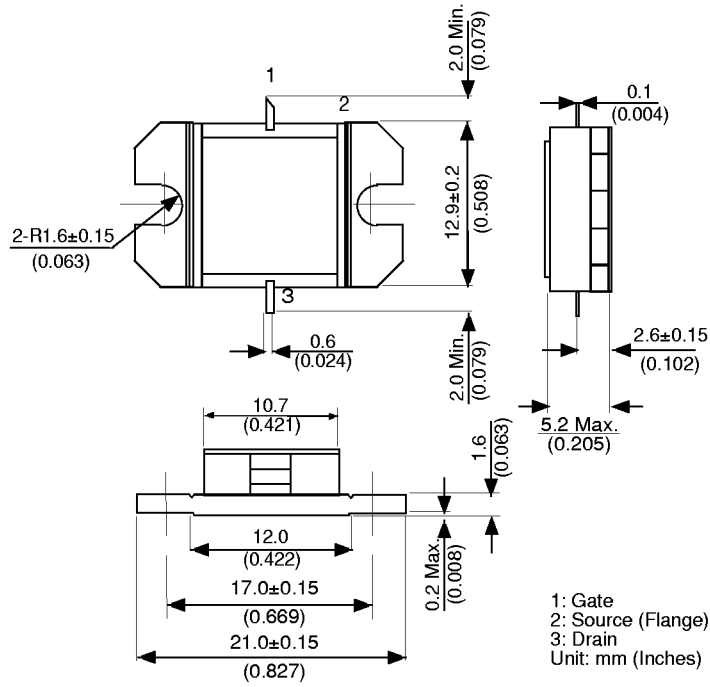


S-PARAMETERS

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

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
7500	.38	-100	2.21	-19	.05	-29	.60	135
7600	.30	-118	2.36	-32	.06	-47	.60	125
7700	.23	-141	2.45	-44	.06	-64	.56	109
7800	.16	-173	2.51	-60	.07	-82	.53	92
7900	.14	138	2.52	-78	.07	-99	.50	79
8000	.17	94	2.60	-91	.07	-113	.46	61
8100	.24	65	2.56	-106	.07	-130	.44	42
8200	.30	46	2.52	-122	.08	-147	.41	18
8300	.37	31	2.49	-138	.08	-163	.42	-1
8400	.42	20	2.47	-152	.08	-177	.40	-27
8500	.46	10	2.35	-166	.08	169	.39	-54
8600	.49	1	2.13	178	.07	152	.38	-76
8700	.50	-6	1.97	164	.07	138	.37	-94

Case Style "IB"
Metal-Ceramic Hermetic Package



2