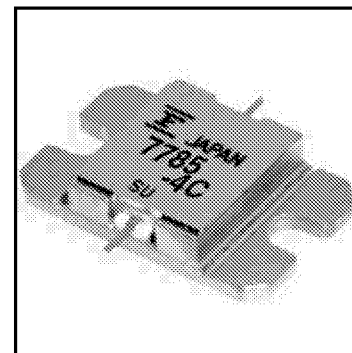


FLM7785-4C

Internally Matched Power GaAs FETs

FEATURES

- High Output Power: $P_{1dB} = 36dBm$ (Typ.)
- High Gain: $G_{1dB} = 7.0dB$ (Typ.)
- High PAE: $\eta_{add} = 30%$ (Typ.)
- Broad Band: 7.7 ~ 8.5GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



DESCRIPTION

The FLM7785-4C 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	$T_C = 25^\circ C$	25	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 8.0 and -2.2 mA respectively with gate resistance of 100Ω .

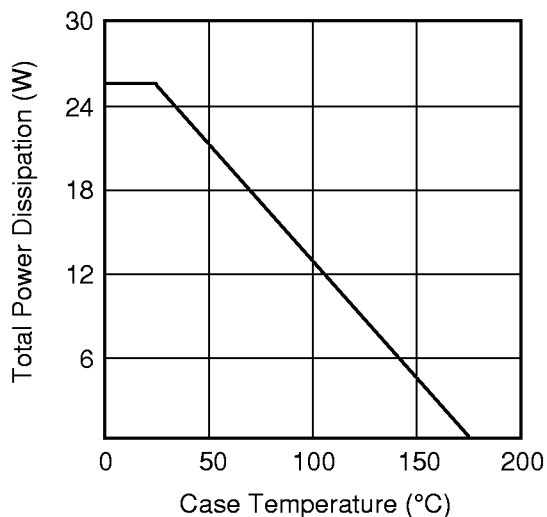
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ C$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0V$	-	1800	2700	mA
Transconductance	g_m	$V_{DS} = 5V, I_{DS} = 1100mA$	-	1000	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 5V, I_{DS} = 90mA$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -90\mu A$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10V,$ $I_{DS} = 0.6 I_{DSS}$ (Typ.), $f = 7.7 \sim 8.5 GHz,$ $Z_S = Z_L = 50 ohm$	35	36	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		6.0	7.0	-	dB
Drain Current	I_{dsr}		-	1100	1300	mA
Power-added Efficiency	η_{add}		-	30	-	%
Thermal Resistance	R_{th}	Channel to Case	-	5.0	6.0	$^\circ C/W$

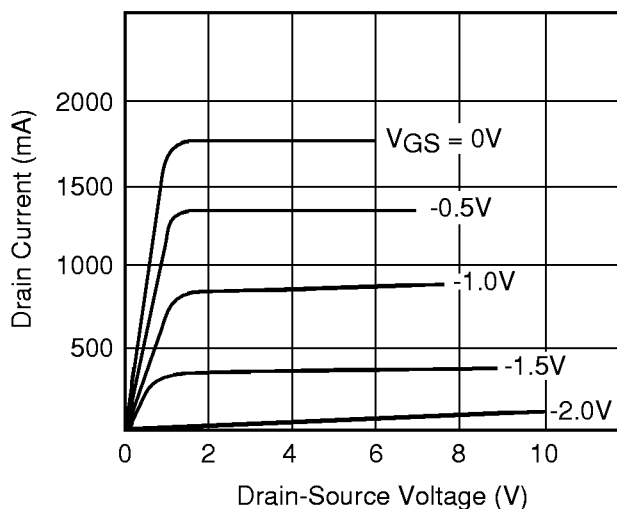
CASE STYLE: IB

G.C.P.: Gain Compression Point

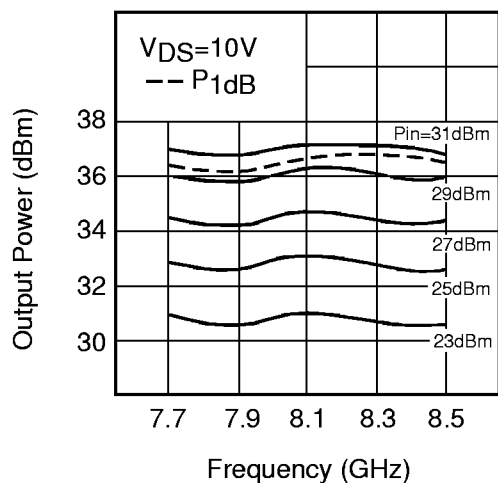
POWER DERATING CURVE



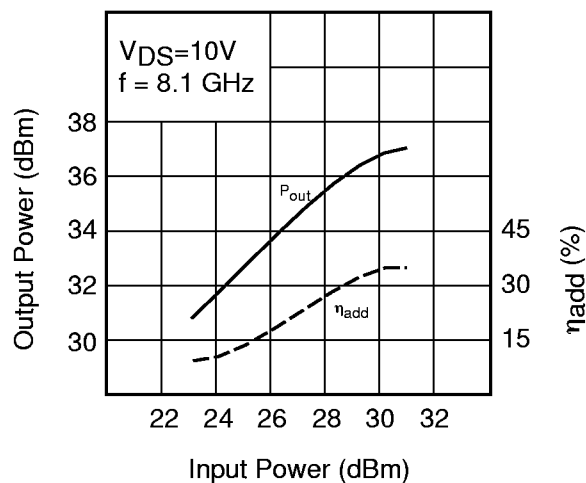
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE



OUTPUT POWER vs. FREQUENCY

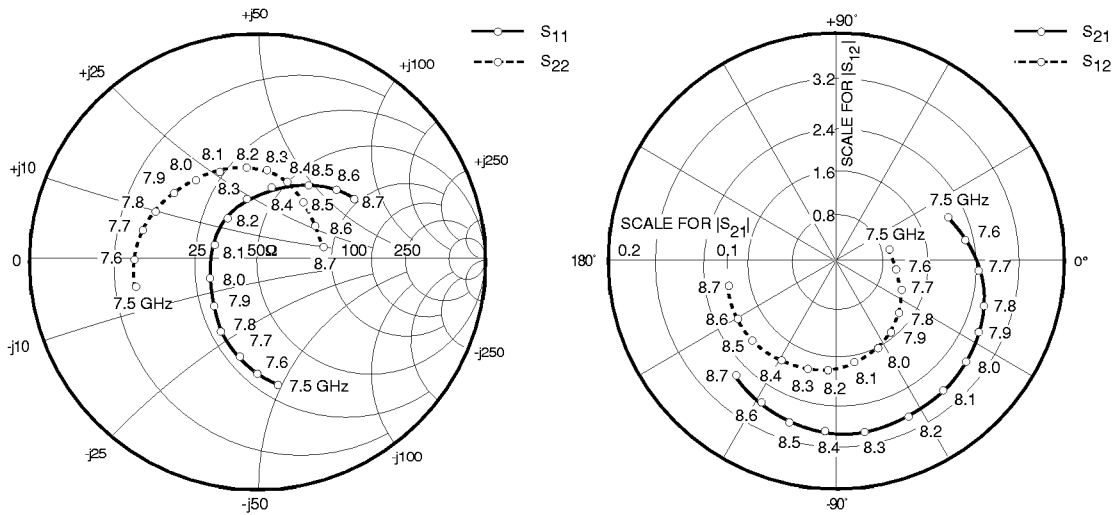


OUTPUT POWER vs. INPUT POWER



FLM7177-18DA

Internally Matched Power GaAs FETs



S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 1100mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
7500	.55	-80	2.23	21	.05	9	.58	-168
7600	.50	-91	2.35	9	.05	-4	.57	179
7700	.44	-105	2.47	-3	.06	-19	.56	166
7800	.38	-121	2.60	-14	.06	-35	.53	154
7900	.32	-140	2.73	-26	.07	-50	.52	143
8000	.27	-164	2.82	-37	.07	-63	.49	130
8100	.23	164	2.88	-51	.08	-79	.46	114
8200	.23	129	2.88	-65	.08	-94	.43	99
8300	.27	98	2.92	-79	.09	-107	.41	85
8400	.33	74	2.88	-93	.09	-121	.37	68
8500	.40	56	2.84	-105	.10	-135	.34	48
8600	.46	42	2.69	-118	.09	-150	.31	28
8700	.51	30	2.53	-132	.09	-164	.29	8

Case Style "IB"
Metal-Ceramic Hermetic Package

