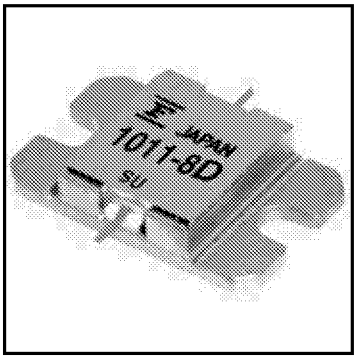
FLM1011-8D
Internally Matched Power GaAs FETs

FUJITSU

FEATURES



- High Output Power: P_{1dB} = 38.5dBm (Typ.)
- High Gain: G_{1dB} = 5.0dB (Typ.)
- High PAE: η_{add} = 22% (Typ.)
- Low IM_3 = -45dBc@Po = 28dBm
- Broad Band: 10.7 ~ 11.7GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed

DESCRIPTION

The FLM1011-8D 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.

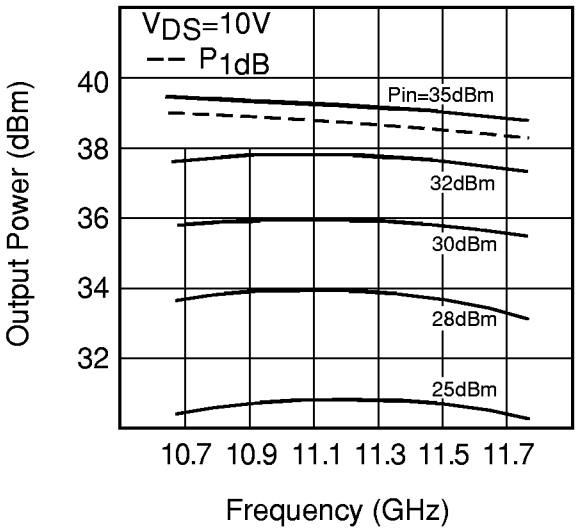
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

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} = 0.6 I_{DSS} (Typ.), f = 10.7 ~ 11.7 GHz, Z_S=Z_L=50 ohm	37.5	38.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		4.0	5.0	-	dB
Drain Current	I_{dsr}		-	2200	2600	mA
Power-added Efficiency	ηadd		-	22	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 11.7 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

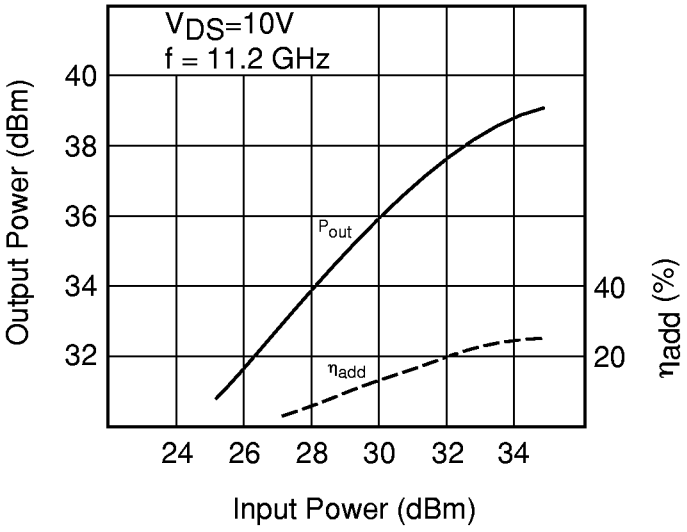
CASE STYLE: IB

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

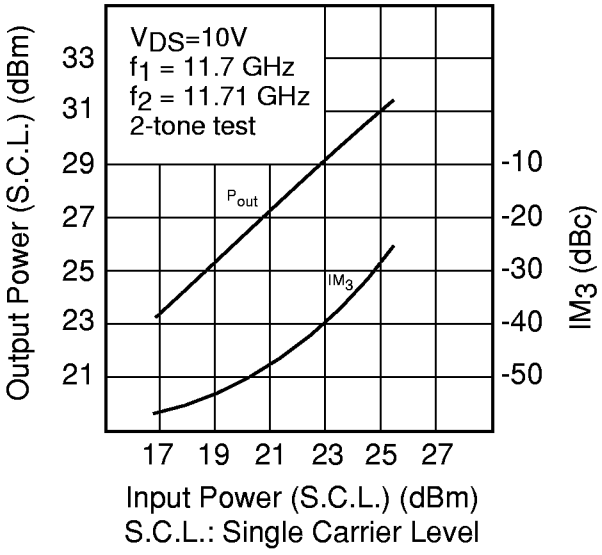
OUTPUT POWER vs. FREQUENCY

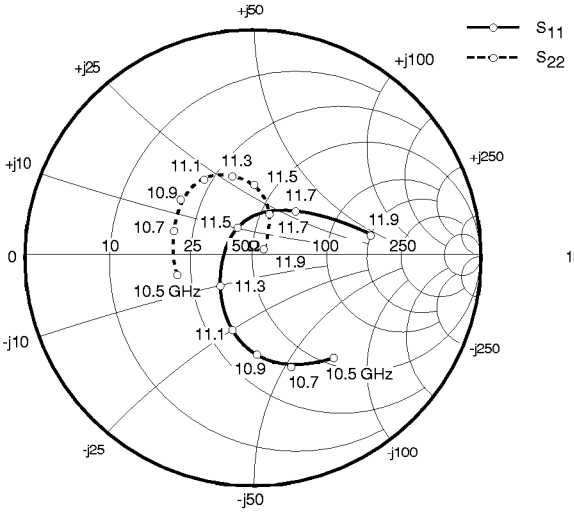


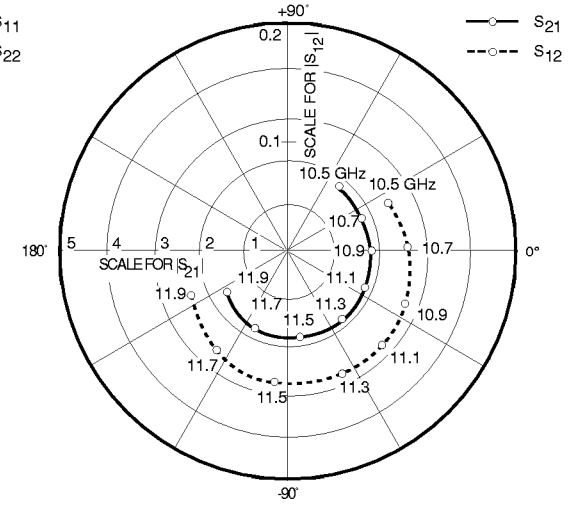
OUTPUT POWER vs. INPUT POWER



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
10500	.55	-49	1.77	46	.10	25	.39	-168
10700	.50	-68	1.80	22	.10	2	.44	165
10900	.43	-88	1.82	-1	.11	-22	.46	144
11100	.33	-109	1.82	-25	.11	-46	.44	126
11300	.19	-142	1.83	-52	.11	-70	.41	110
11500	.11	112	1.87	-81	.11	-98	.32	87
11700	.32	42	1.78	-114	.10	-128	.18	61
11900	.54	11	1.56	-146	.09	-159	.06	23

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Case Style "IB"
Metal-Ceramic Hermetic Package