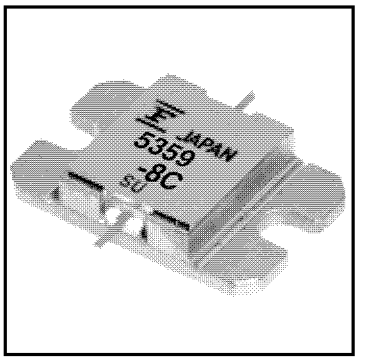
FLM5359-8C
Internally Matched Power GaAs FETs

FUJITSU

FEATURES

- High Output Power: P_{1dB} = 39dBm (Typ.)
- High Gain: G_{1dB} = 9.5dB (Typ.)
- High PAE: η_{add} = 32% (Typ.)
- Broad Band: 5.3 ~ 5.9GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5359-8C 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	gm	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 = 5.3 ~ 5.9 GHz, Z_S = Z_L = 50 ohm	38	39	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		8.5	9.5	-	dB
Drain Current	I_{dsr}		-	2200	2600	mA
Power-added Efficiency	ηadd		-	32	-	%
Thermal Resistance	R_{th}	Channel to Case	-	3	3.5	°C/W

CASE STYLE: IB

G.C.P.: Gain Compression Point

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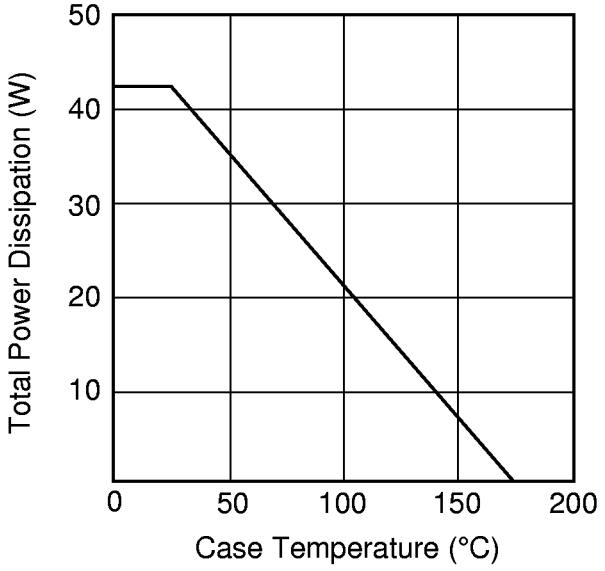
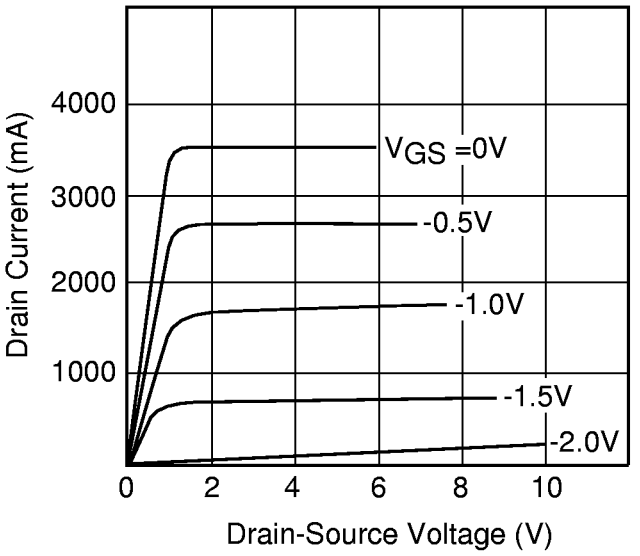
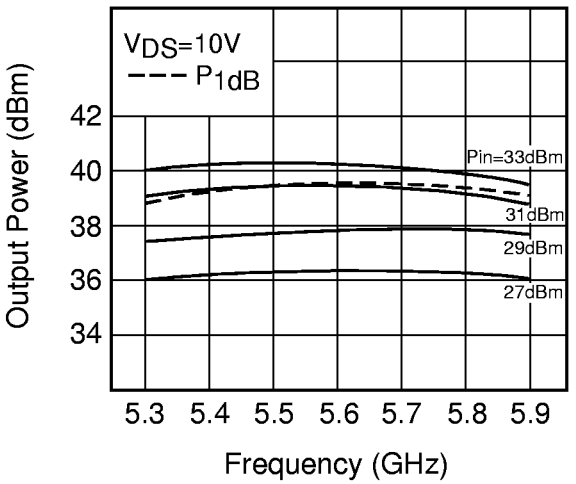
POWER DERATING CURVE



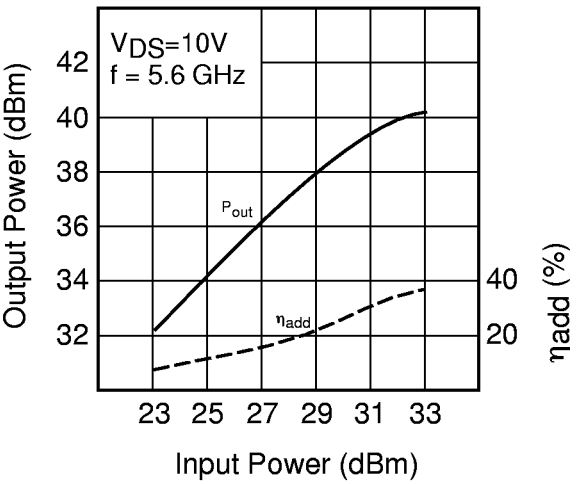
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

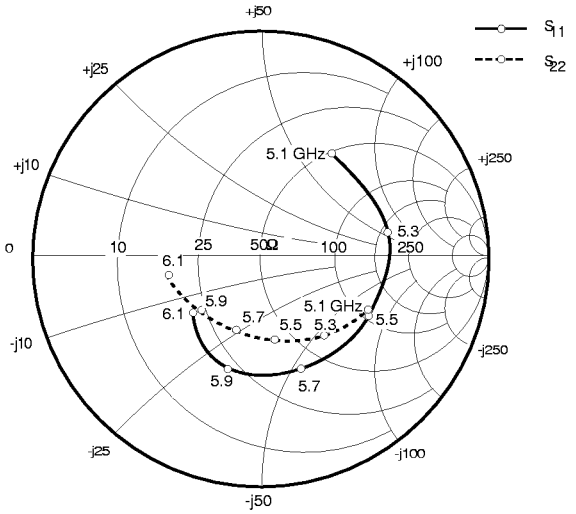


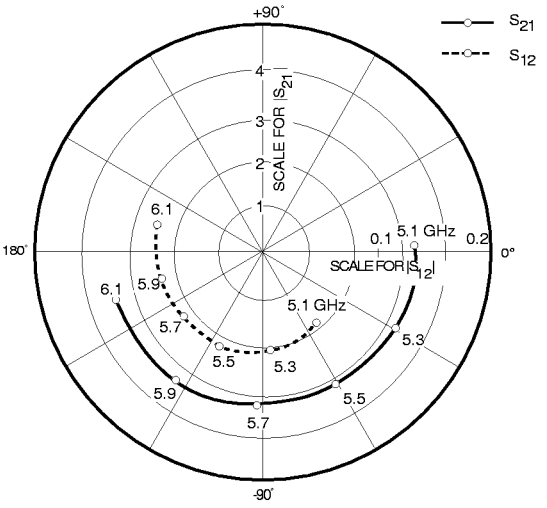
OUTPUT POWER vs. FREQUENCY



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
5100	.554	55.1	3.300	2.5	.076	-53.6	.541	-25.3
5200	.566	31.7	3.331	-13.7	.082	-69.4	.496	-37.6
5300	.573	10.8	3.338	-29.9	.085	-85.2	.451	-50.4
5400	.566	-8.6	3.308	-45.8	.087	-100.6	.409	-63.7
5500	.544	-28.0	3.287	-61.6	.089	-115.5	.374	-77.2
5600	.528	-47.6	3.283	-76.9	.088	-128.1	.345	-90.7
5700	.526	-67.3	3.305	-92.3	.088	-140.8	.332	-104.1
5800	.526	-85.7	3.338	-108.2	.090	-152.4	.330	-118.8
5900	.505	-102.9	3.367	-124.9	.092	-166.0	.344	-134.7
6000	.458	-120.0	3.401	-142.5	.094	179.9	.367	-150.5
6100	.380	-138.0	3.435	-160.7	.095	165.5	.397	-167.7

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Case Style "IB"
Metal-Ceramic Hermetic Package