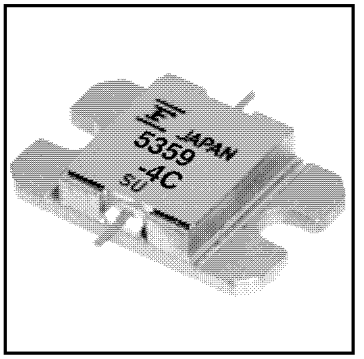
FLM5359-4C
Internally Matched Power GaAs FETs

FUJITSU

FEATURES



- High Output Power: P_{1dB} = 36dBm (Typ.)
- High Gain: G_{1dB} = 10.5dB (Typ.)
- High PAE: η_{add} = 33% (Typ.)
- Broad Band: 5.3 ~ 5.9GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM5359-4C 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 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	25	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 8.0 and -2.2 mA respectively with gate resistance of 100Ω.

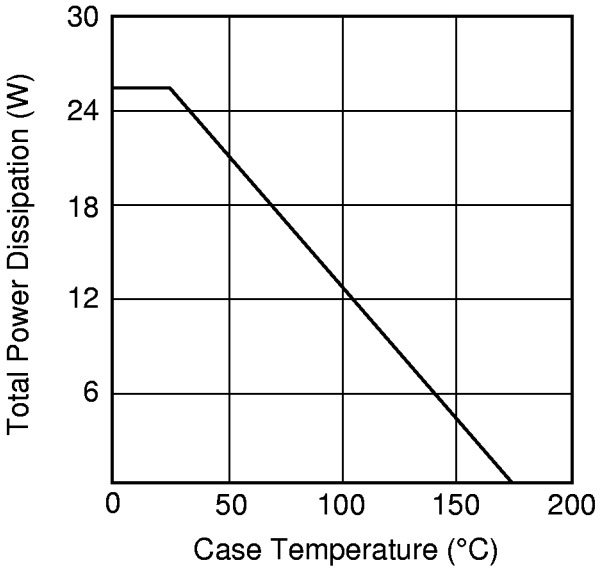
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	1800	2700	mA
Transconductance	gm	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} = -90μA	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS} = 10V $I_{DS} \approx 0.6\ I_{DSS}$ (Typ.), f = 5.3 ~ 5.9 GHz, $Z_S = Z_L$ = 50 ohm	35	36	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		9.5	10.5	-	dB
Drain Current	I_{dsr}		-	1100	1300	mA
Power-added Efficiency	η_{add}		-	33	-	%
Thermal Resistance	R_{th}	Channel to Case	-	5	6	°C/W

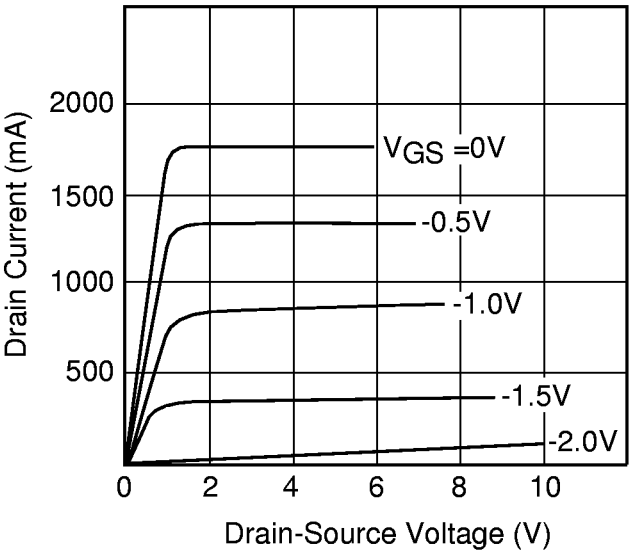
CASE STYLE: IB

G.C.P.: Gain Compression Point

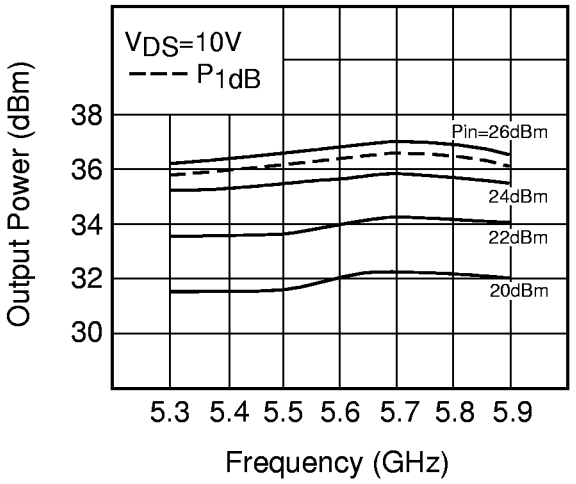
POWER DERATING CURVE



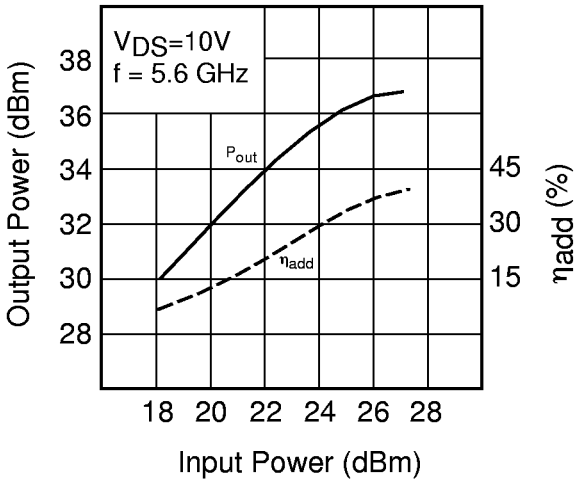
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

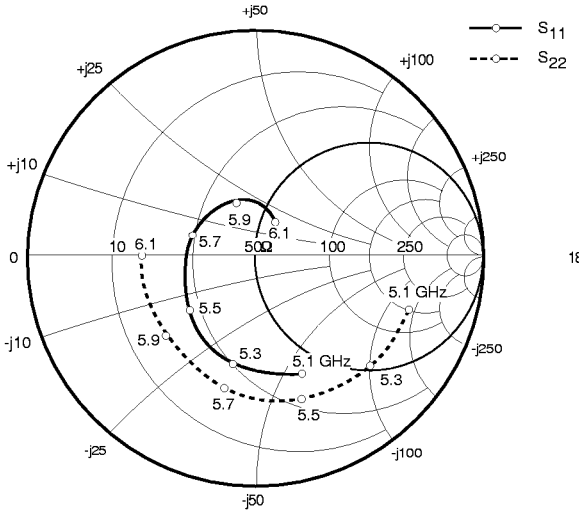


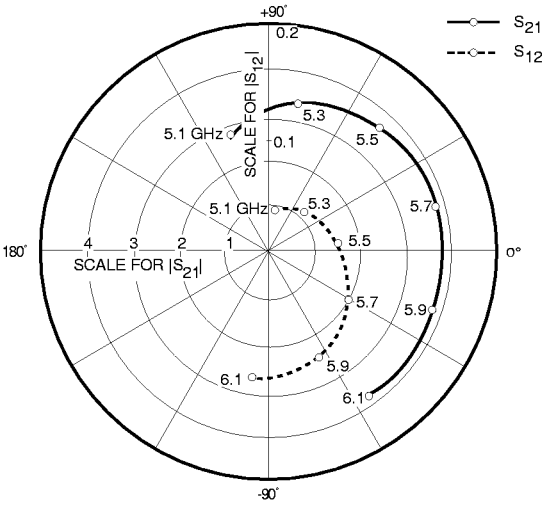
OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER







S-PARAMETERS

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

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5100	.556	-66.8	2.890	107.3	.035	88.6	.704	-18.5
5200	.514	-82.5	3.080	93.6	.040	68.2	.697	-30.0
5300	.467	-100.0	3.269	79.4	.045	48.2	.691	-42.3
5400	.419	-119.8	3.458	64.4	.054	27.0	.672	-55.8
5500	.371	-142.6	3.611	48.2	.062	8.7	.646	-71.1
5600	.327	-168.1	3.724	32.1	.072	-10.9	.613	-86.6
5700	.295	164.3	3.808	15.7	.081	-29.1	.570	-103.0
5800	.271	136.3	3.864	-1.1	.090	-46.5	.536	-120.4
5900	.249	109.7	3.867	-18.4	.098	-63.8	.515	-139.3
6000	.220	84.6	3.837	-36.2	.104	-81.0	.506	-159.2
6100	.174	60.4	3.757	-54.5	.110	-97.3	.510	179.7

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Case Style "IB"
Metal-Ceramic Hermetic Package