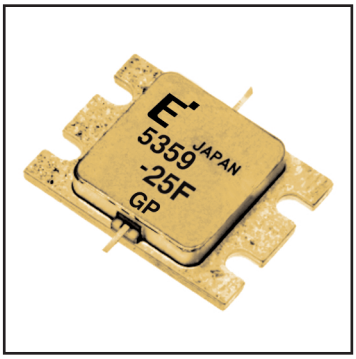
FLM5359-25F

C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB} = 44.5dBm (Typ.)
- High Gain: G_{1dB} = 8.5dB (Typ.)
- High PAE: η_{add} = 39% (Typ.)
- Low IM_3 = -46dBc@Po = 33.5dBm
- Broad Band: 5.3 ~ 5.9GHz
- Impedance Matched Zin/Zout = 50Ω



DESCRIPTION

The FLM5359-25F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

EUDYNA'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	93.7	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 64.0 and -11.2 mA respectively with gate resistance of 25Ω.

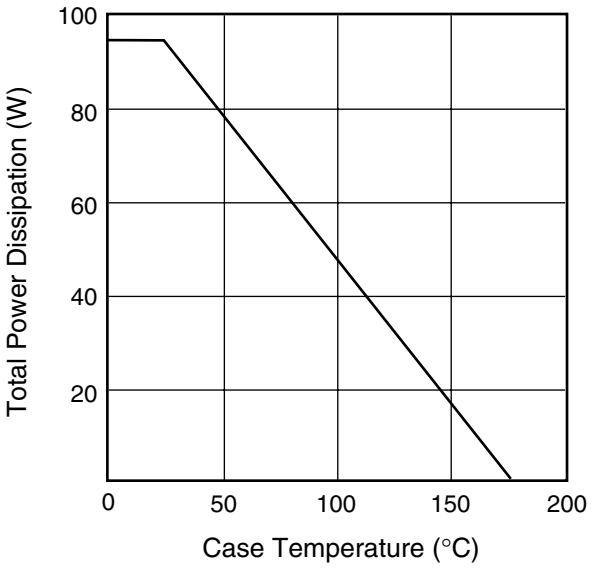
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	11.6	17.4	A
Transconductance	gm	V_{DS} = 5V, I_{DS} = 6800mA	-	5800	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} = 600mA	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -600μA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS} =10V, I_{DS} = 0.55 I_{DSS} (Typ.), f = 5.3 ~ 5.9 GHz, Z_S=Z_L= 50 ohm	43.5	44.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.5	8.5	-	dB
Drain Current	I_{dsr}		-	6200	7600	mA
Power-added Efficiency	ηadd		-	39	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 5.9 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 33.5dBm S.C.L.	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.4	1.6	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	100	°C

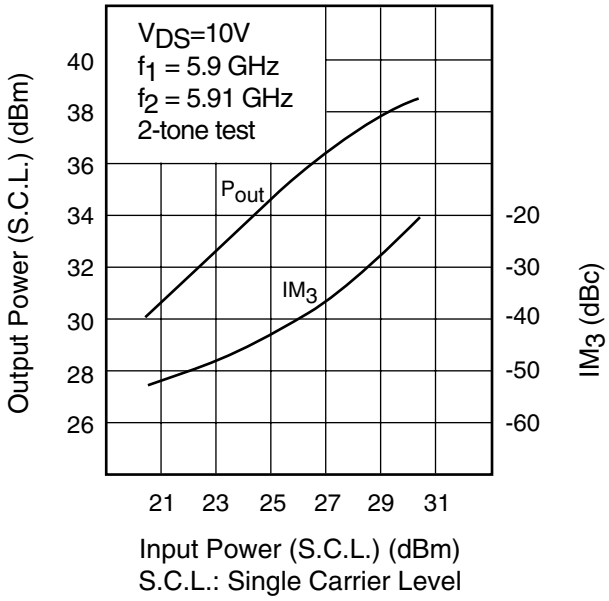
CASE STYLE: IK

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

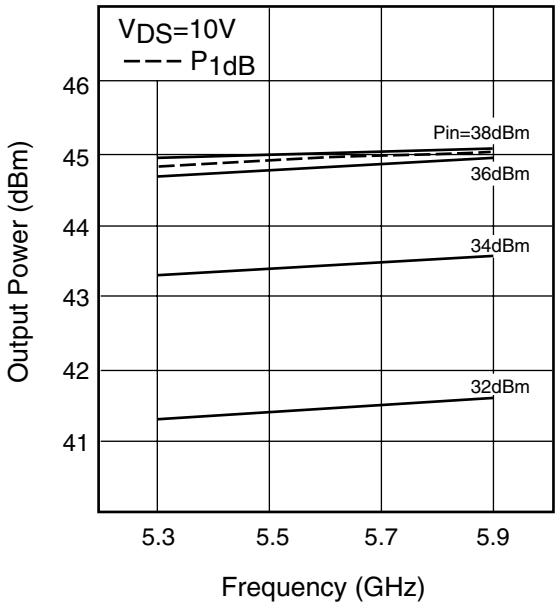
POWER DERATING CURVE



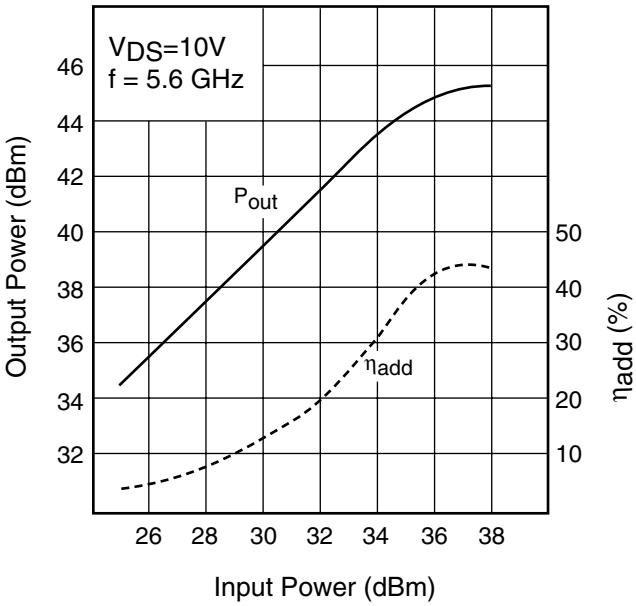
OUTPUT POWER & IM_3 vs. INPUT POWER

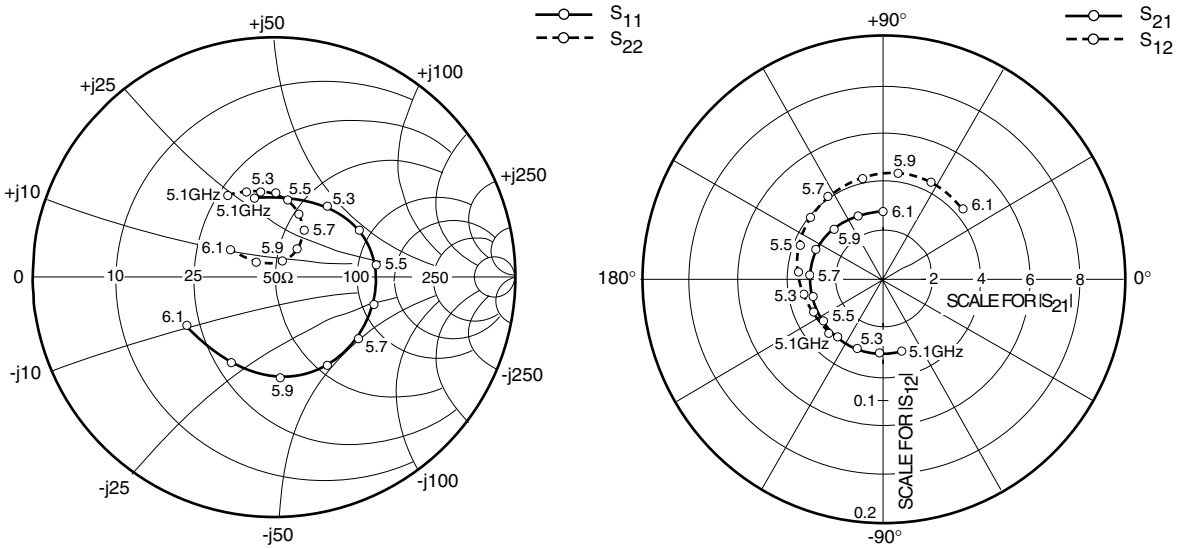


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

V_{DS} = 10V, I_{DS} = 6800mA

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5100	.342	104.6	3.045	-77.3	.063	-137.6	.392	119.8
5200	.349	78.6	3.013	-94.3	.064	-155.3	.366	108.1
5300	.370	52.9	3.043	-111.7	.068	-170.0	.354	99.2
5400	.393	28.8	3.045	-129.9	.070	174.1	.343	88.6
5500	.416	6.7	3.045	-147.8	.075	158.1	.321	78.2
5600	.432	-14.4	3.054	-166.3	.080	140.2	.281	67.6
5700	.436	-36.2	3.060	174.9	.083	122.1	.226	57.1
5800	.428	-59.4	3.061	155.4	.085	103.4	.152	50.8
5900	.417	-86.4	3.041	135.0	.088	83.3	.071	65.3
6000	.407	-117.2	2.964	113.5	.088	63.5	.091	141.9
6100	.418	-150.9	2.812	91.3	.086	40.5	.215	148.0

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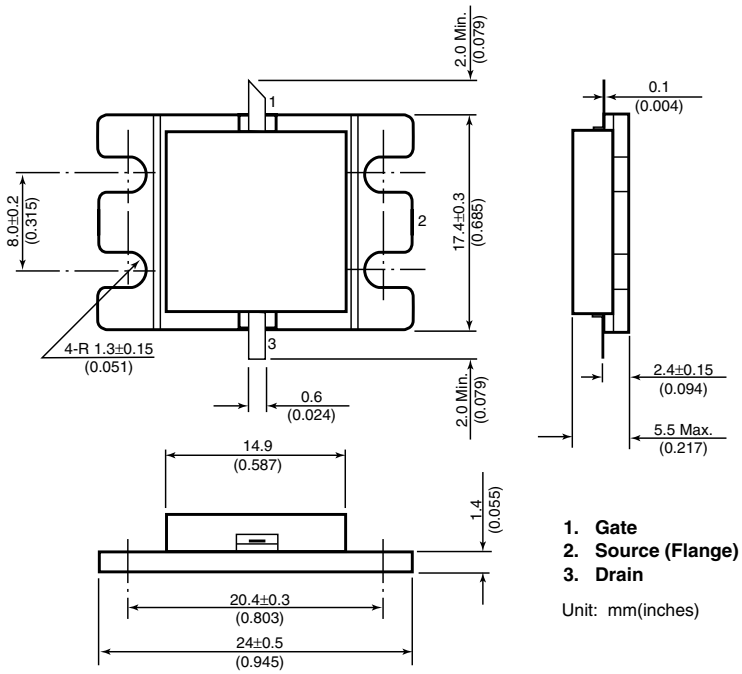
Case Style "IK"

Metal-Ceramic Hermetic Package



1. **Gate**
2. **Source (Flange)**
3. **Drain**

Unit: mm(inches)

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CAUTION

Eudyna Devices Inc. products contain **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- **Do not put this product into the mouth.**
- **Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.**
- **Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.**

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