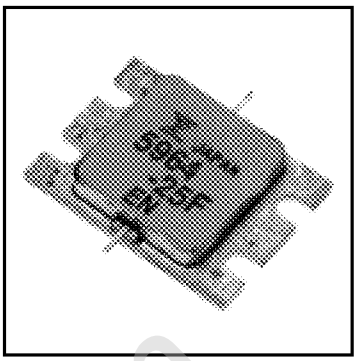
FLM5964-25F

C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB} = 44.5dBm (Typ.)
- High Gain: G_{1dB} = 10.0dB (Typ.)
- High PAE: η_{add} = 37% (Typ.)
- Low IM_3 = -46dBc@Po = 33.5dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-25F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

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	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.

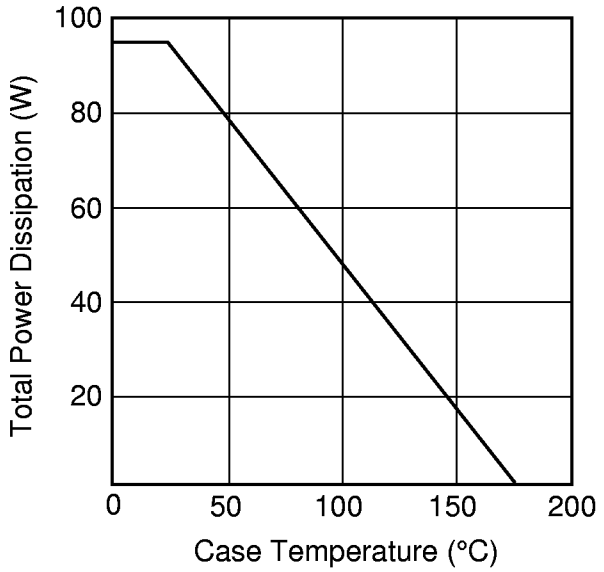
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	10	15	A
Transconductance	g_m	V_{DS} = 5V, I_{DS} = 6.5A	-	10	-	S
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} = 500mA	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -500μA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS} =10V, I_{DS} = 0.65I_{DSS} (Typ.), f = 5.9 ~ 6.4 GHz, Z_S=Z_L=50 ohm	43.5	44.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		9.0	10.0	-	dB
Drain Current	I_{dsr}		-	6500	7600	mA
Power-added Efficiency	ηadd		-	37	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 6.4 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

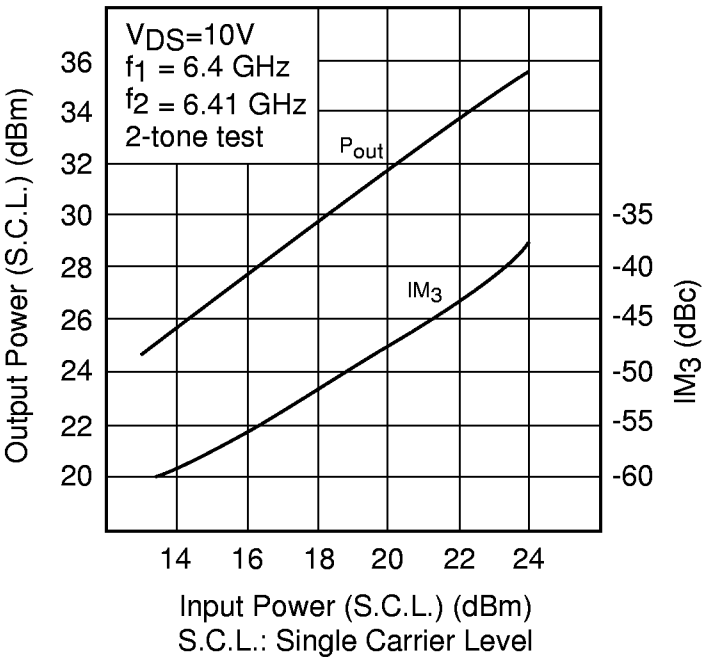
CASE STYLE: IK

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

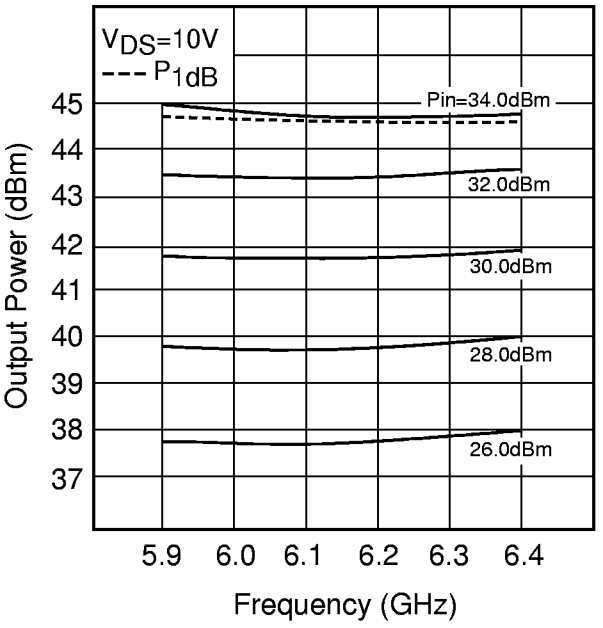
POWER DERATING CURVE



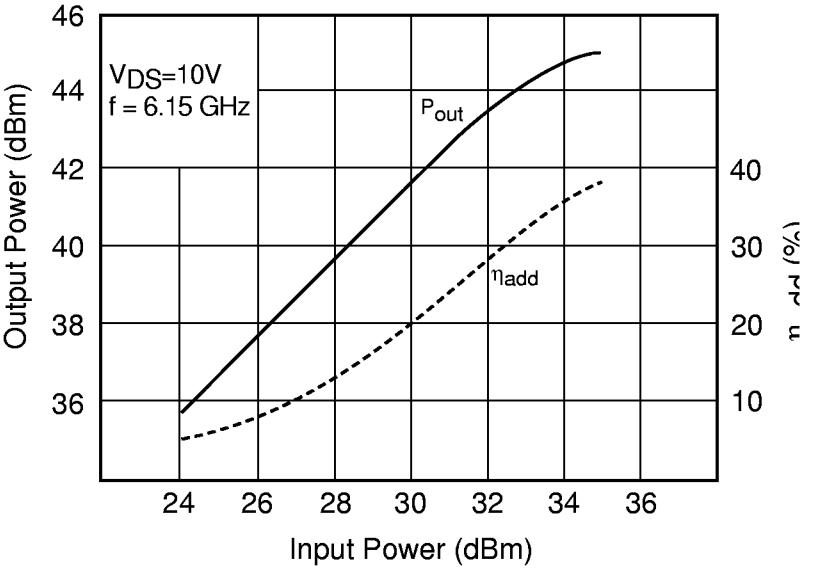
OUTPUT POWER & IM_3 vs. INPUT POWER

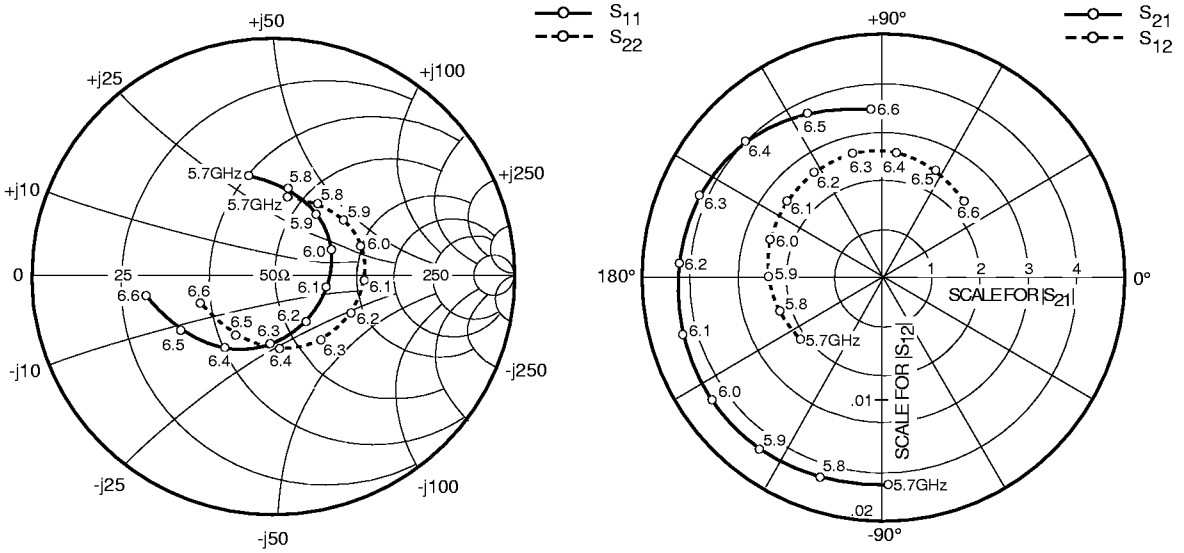


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





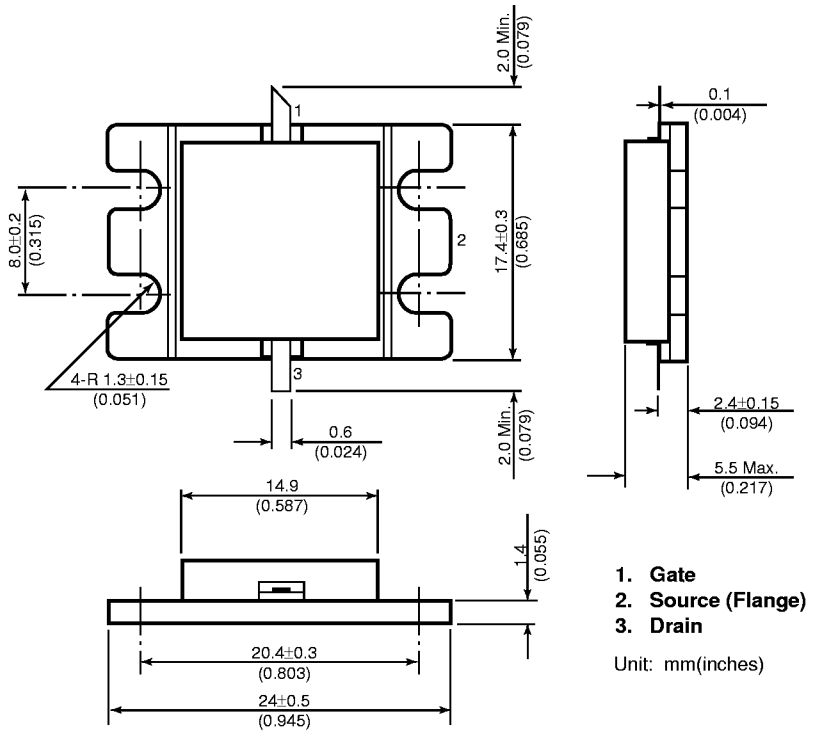
S-PARAMETERS

V_{DS} = 10V, I_{DS} = 6.5A

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.428	104.1	4.249	-89.0	.085	-144.0	.335	79.6
5800	.369	81.2	4.311	-107.4	.090	-162.3	.356	59.2
5900	.311	55.2	4.347	-126.1	.096	179.4	.371	38.7
6000	.261	24.5	4.354	-144.9	.099	161.1	.378	18.6
6100	.230	-13.9	4.333	-164.2	.103	142.1	.374	-3.1
6200	.240	-55.4	4.272	176.2	.105	123.1	.358	-26.4
6300	.290	-92.9	4.170	156.2	.106	103.7	.333	-53.6
6400	.365	-123.7	3.999	135.8	.103	84.0	.306	-85.1
6500	.451	-148.8	3.756	115.2	.099	63.8	.300	-122.1
6600	.538	-170.8	3.470	94.6	.092	43.7	.327	-159.3

Case Style "IK"

Metal-Ceramic Hermetic Package



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

Unit: mm(inches)

For further information please contact:

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CAUTION

Fujitsu Compound Semiconductor 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 these products 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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