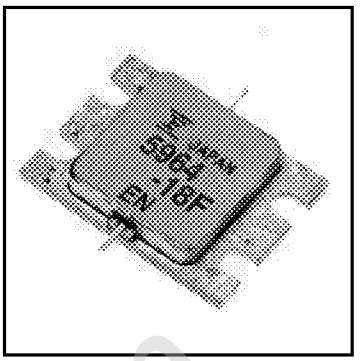
FLM5964-18F

C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB} = 43.0dBm (Typ.)
- High Gain: G_{1dB} = 10.0dB (Typ.)
- High PAE: η_{add} = 37% (Typ.)
- Low IM_3 = -46dBc@Po = 32.0dBm
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-18F 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	83.3	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 48.0 and -8.4 mA respectively with gate resistance of 25Ω.

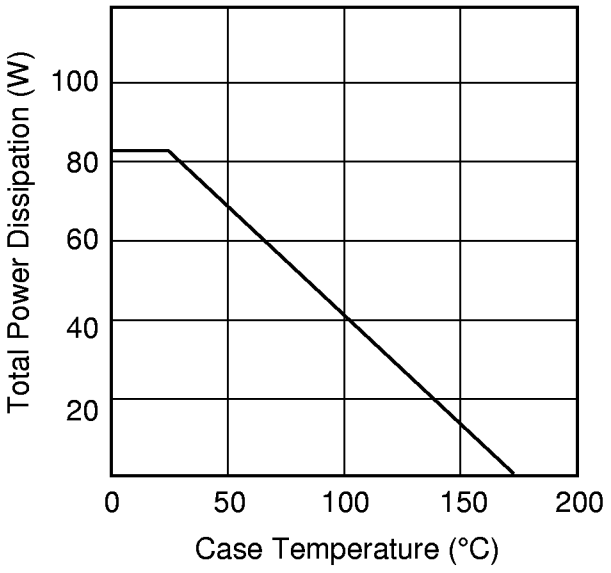
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	7.5	11.25	A
Transconductance	g_m	V_{DS} = 5V, I_{DS} = 4875mA	-	7500	-	mS
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} = 250mA	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -250μA	-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	42.0	43.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		9.0	10.0	-	dB
Drain Current	I_{dsr}		-	4875	6000	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} = 32.0dBm S.C.L.	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.6	1.8	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	80	°C

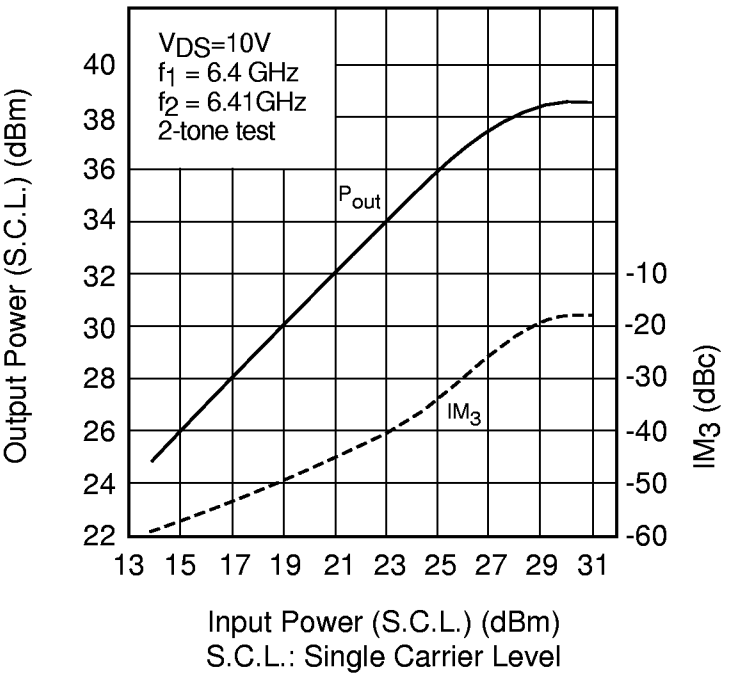
CASE STYLE: IK

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

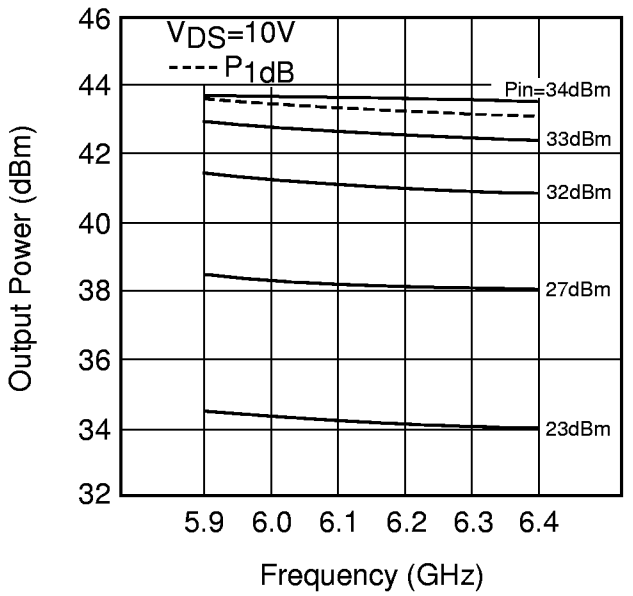
POWER DERATING CURVE



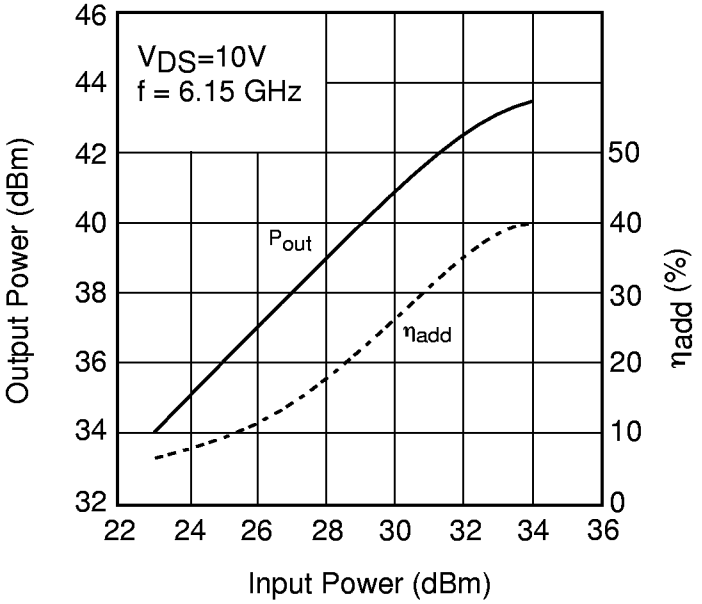
OUTPUT POWER & IM3 vs. INPUT POWER

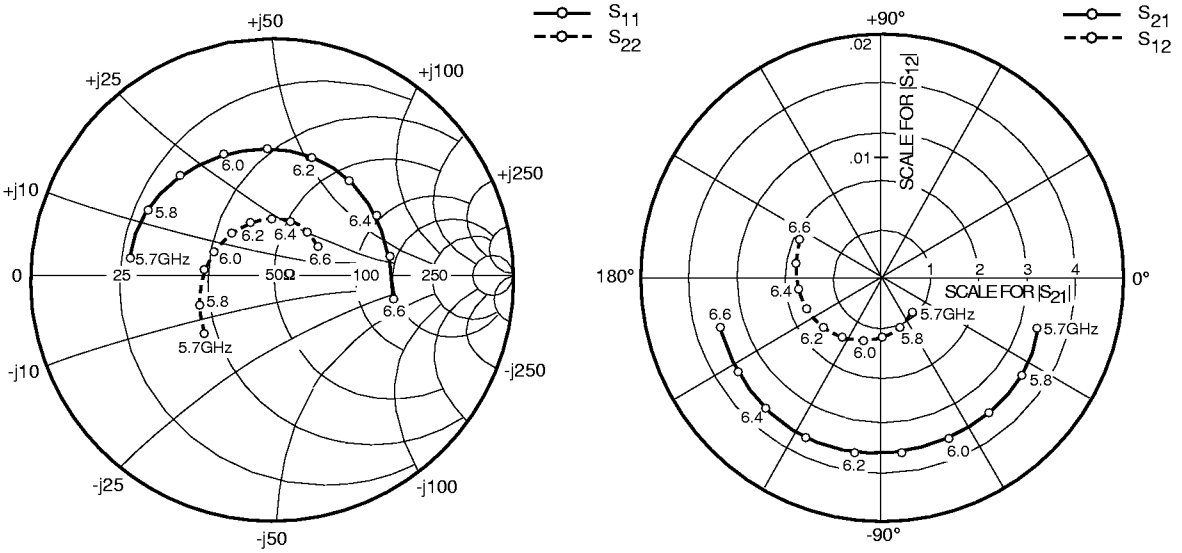


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





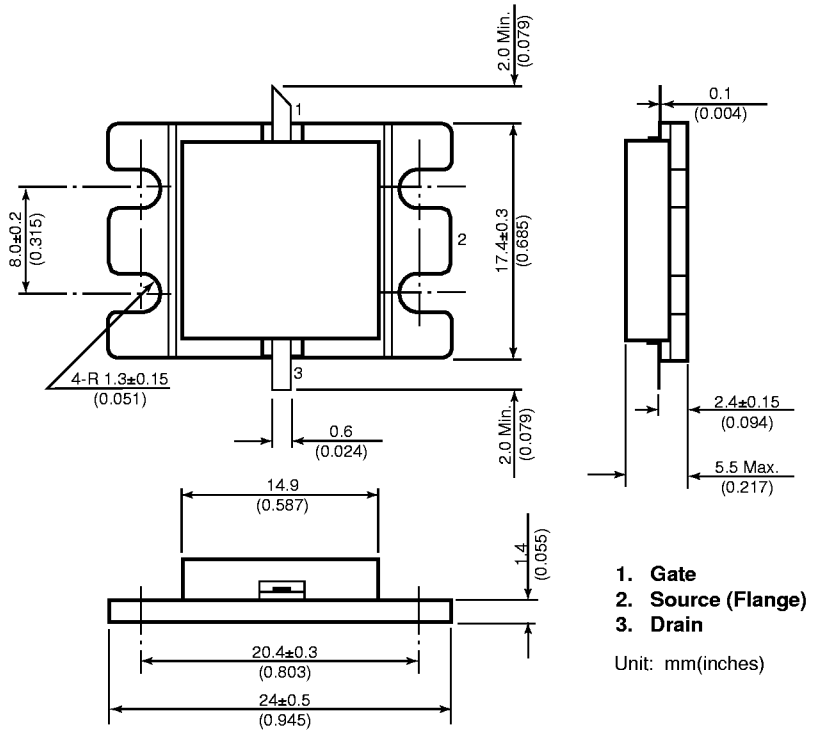
S-PARAMETERS

V_{DS} = 10V, I_{DS} = 4875mA

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.597	172.1	3.400	-18.1	.038	-49.2	.438	-147.7
5800	.583	151.8	3.480	-34.7	.043	-70.2	.407	-164.5
5900	.569	132.1	3.537	-51.2	.049	-89.7	.379	178.5
6000	.552	112.4	3.579	-67.4	.054	-106.8	.351	161.7
6100	.535	93.1	3.612	-83.5	.059	-124.1	.322	144.9
6200	.516	72.6	3.625	-99.5	.064	-141.0	.292	128.2
6300	.502	51.8	3.626	-115.6	.068	-157.9	.261	110.9
6400	.494	30.4	3.596	-131.6	.071	-173.2	.229	93.7
6500	.494	9.4	3.546	-147.5	.074	170.9	.196	75.1
6600	.503	-10.7	3.481	-163.1	.076	155.4	.164	54.6

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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