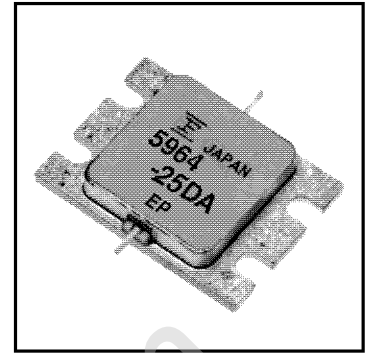


### FEATURES

- High Output Power:  $P_{1dB} = 44\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 8.5\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 33\%$  (Typ.)
- Low  $IM_3 = -45\text{dBc}@P_o = 32\text{dBm}$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



### DESCRIPTION

The FLM5964-25DA 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 $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	$P_T$	$T_C = 25^\circ\text{C}$	93.7	W
Storage Temperature	$T_{stg}$		-65 to +175	$^\circ\text{C}$
Channel Temperature	$T_{ch}$		175	$^\circ\text{C}$

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 24.0 and -11.2 mA respectively with gate resistance of  $25\Omega$ .

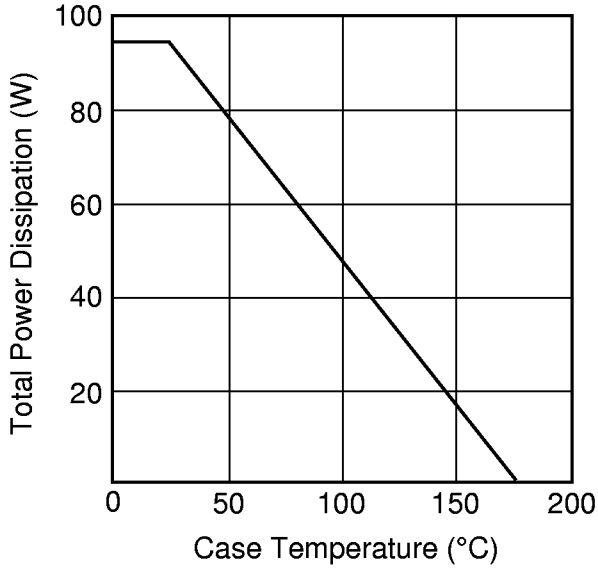
### ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$ )

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	11.4	17.0	mA
Transconductance	$g_m$	$V_{DS} = 5\text{V}, I_{DS} = 6800\text{mA}$	-	5800	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS} = 600\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -600\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V},$ $I_{DS} = 0.55 I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4 \text{GHz},$ $Z_S = Z_L = 50 \text{ohm}$	43	44	-	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	$\eta_{add}$		-	33	-	%
Gain Flatness	$\Delta G$		-	-	$\pm 0.6$	dB
3rd Order Intermodulation Distortion	$IM_3$	$f = 6.4 \text{GHz}, \Delta f = 10 \text{MHz}$ 2-Tone Test $P_{out} = 32\text{dBm S.C.L.}$	-42	-45	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	1.4	1.6	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	$\Delta T_{ch}$	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	100	$^\circ\text{C}$

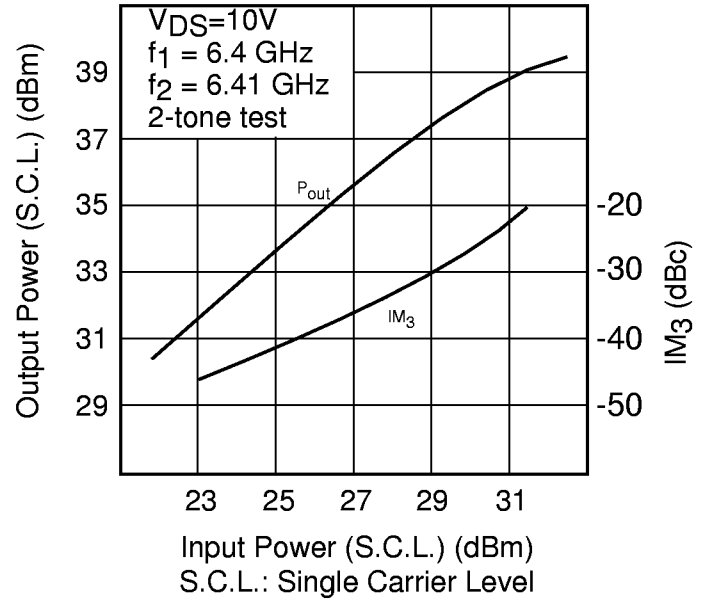
CASE STYLE: IK

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

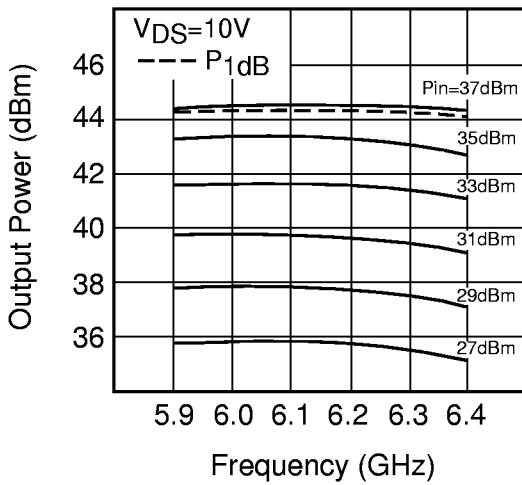
**POWER DERATING CURVE**



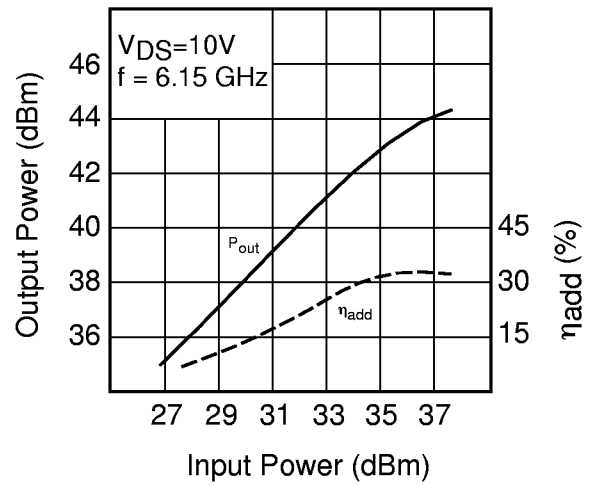
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**



**OUTPUT POWER vs. FREQUENCY**

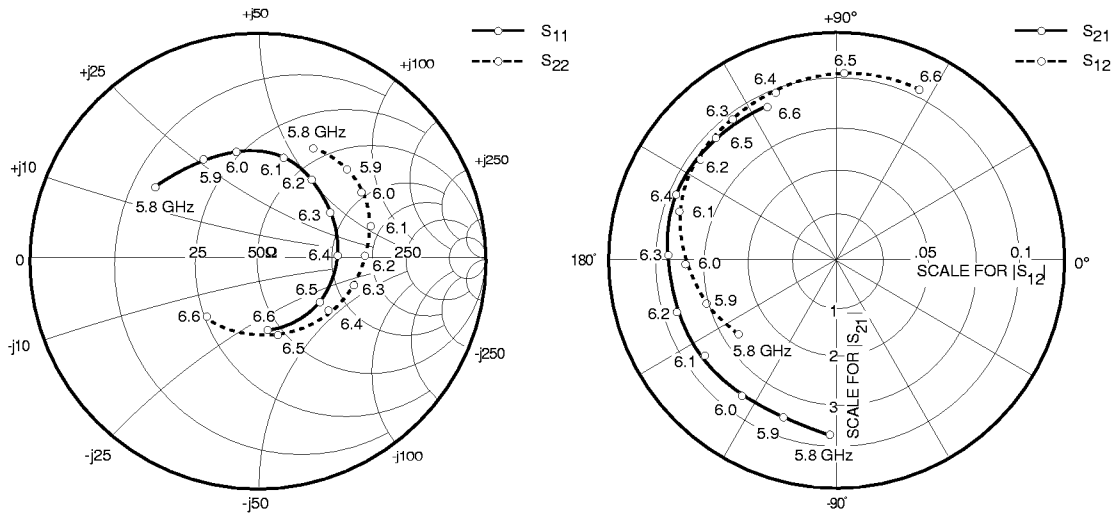


**OUTPUT POWER vs. INPUT POWER**



# FLM5964-25DA

## Internally Matched Power GaAs FETs

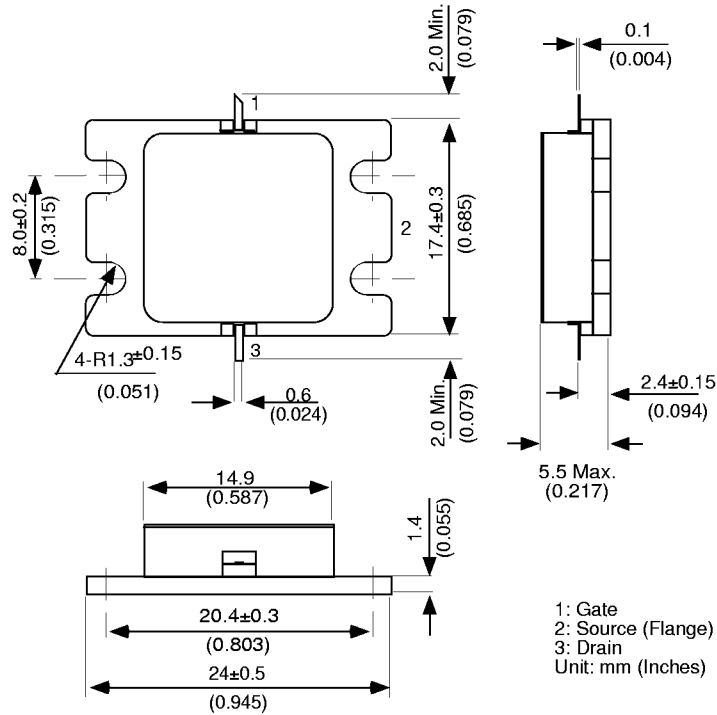


### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 6.2A$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5800	.465	141.4	3.378	-92.0	.070	-144.5	.446	63.1
5900	.431	120.8	3.452	-109.7	.076	-162.2	.446	47.9
6000	.403	99.5	3.522	-127.0	.081	-179.2	.432	33.6
6100	.376	78.5	3.591	-145.1	.085	162.9	.410	18.8
6200	.348	56.3	3.670	-162.9	.090	145.5	.375	3.6
6300	.307	32.5	3.742	177.8	.094	127.6	.331	-15.3
6400	.259	3.1	3.835	158.0	.099	109.2	.274	26.1
6500	.207	-37.4	3.838	136.5	.103	88.4	.224	-57.3
6600	.203	-95.0	3.765	113.6	.105	66.3	.221	-104.0

**Case Style "IK"**  
 Metal-Ceramic Hermetic Package



**2**