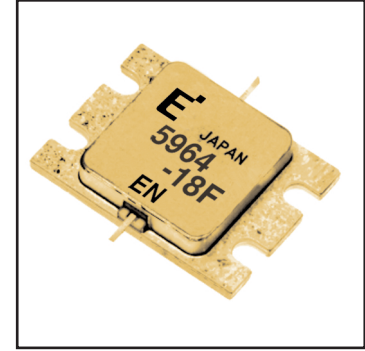


### FEATURES

- High Output Power:  $P_{1dB} = 43.0dBm$  (Typ.)
- High Gain:  $G_{1dB} = 10.0dB$  (Typ.)
- High PAE:  $\eta_{add} = 37%$  (Typ.)
- Low  $IM_3 = -46dBc @ P_o = 32.0dBm$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- 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.

Eudyna's stringent Quality Assurance Program assures the highest reliability and consistent performance.

### ABSOLUTE MAXIMUM RATING (Ambient Temperature $T_a=25^\circ C$ )

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	$P_T$	$T_C = 25^\circ C$	83.3	W
Storage Temperature	$T_{stg}$		-65 to +175	$^\circ C$
Channel Temperature	$T_{ch}$		175	$^\circ C$

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 25 $\Omega$ .

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

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	$V_{GSO}$	$I_{GS} = -250\mu A$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10V,$ $I_{DS} = 0.65I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4$ 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	$\eta_{add}$		-	37	-	%
Gain Flatness	$\Delta G$		-	-	$\pm 0.6$	dB
3rd Order Intermodulation Distortion	$IM_3$	$f = 6.4$ GHz, $\Delta f = 10$ 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	$^\circ C/W$
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	$^\circ C$

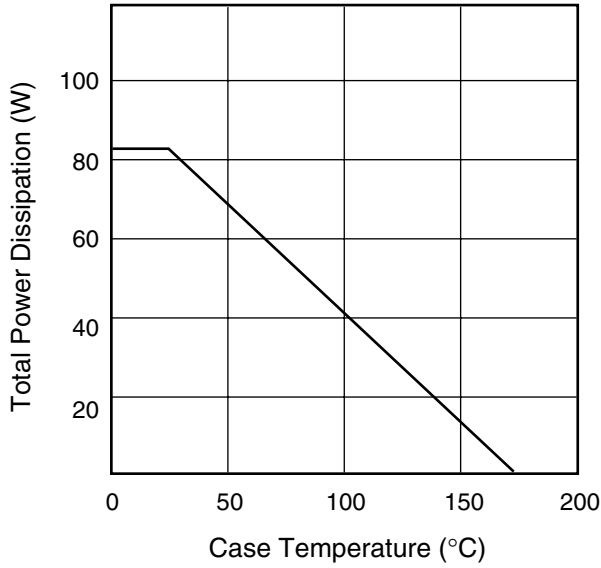
CASE STYLE: IK

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

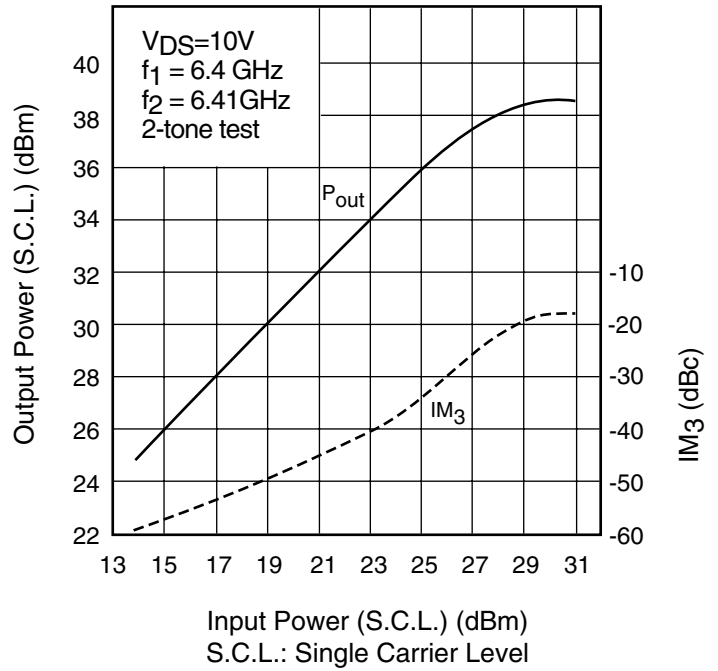
# FLM5964-18F

## C-Band Internally Matched FET

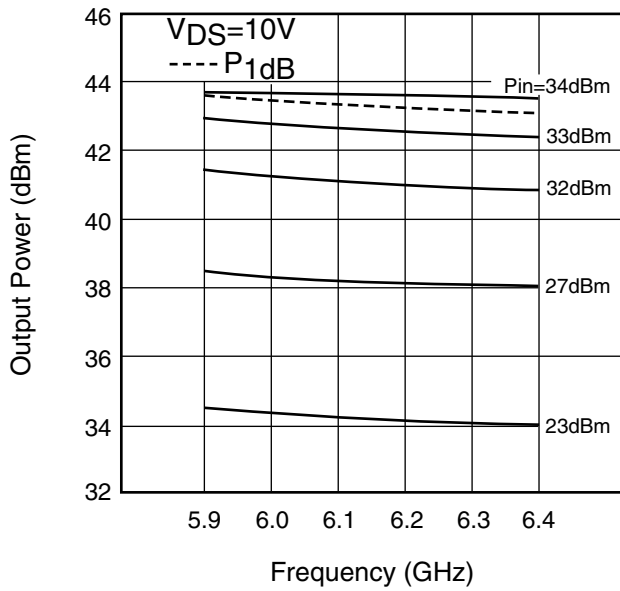
**POWER DERATING CURVE**



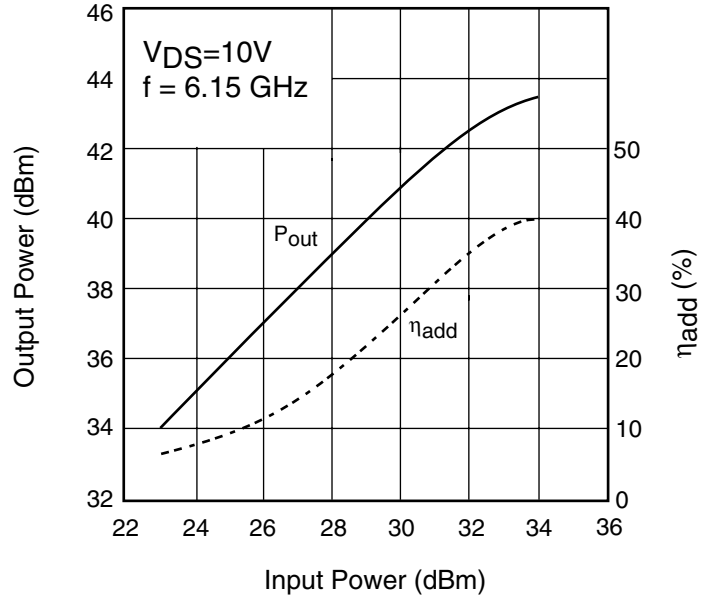
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

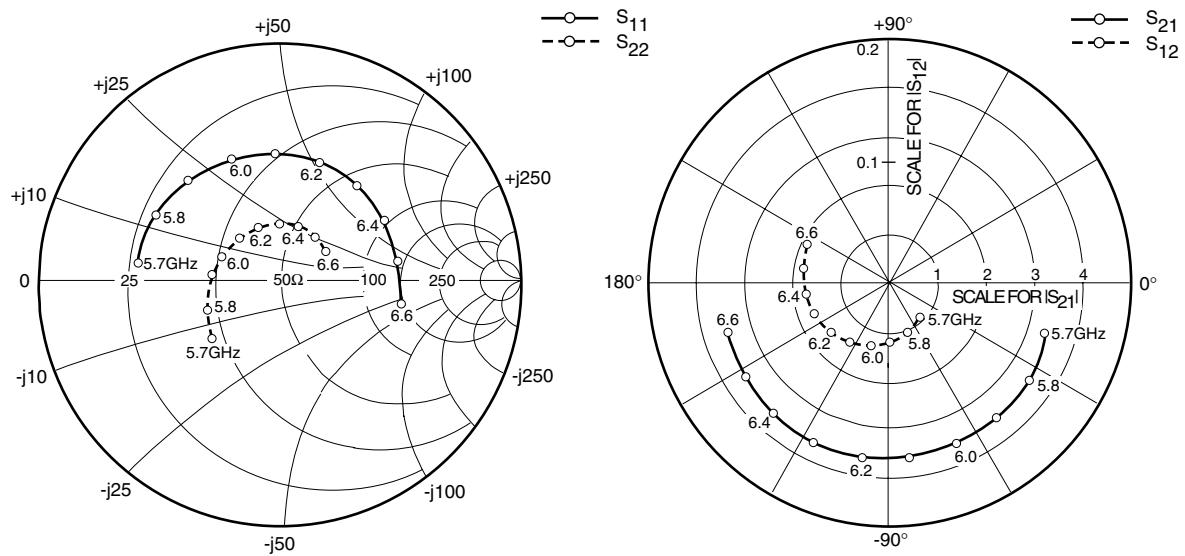


**OUTPUT POWER vs. FREQUENCY**



**OUTPUT POWER vs. INPUT POWER**





### S-PARAMETERS

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

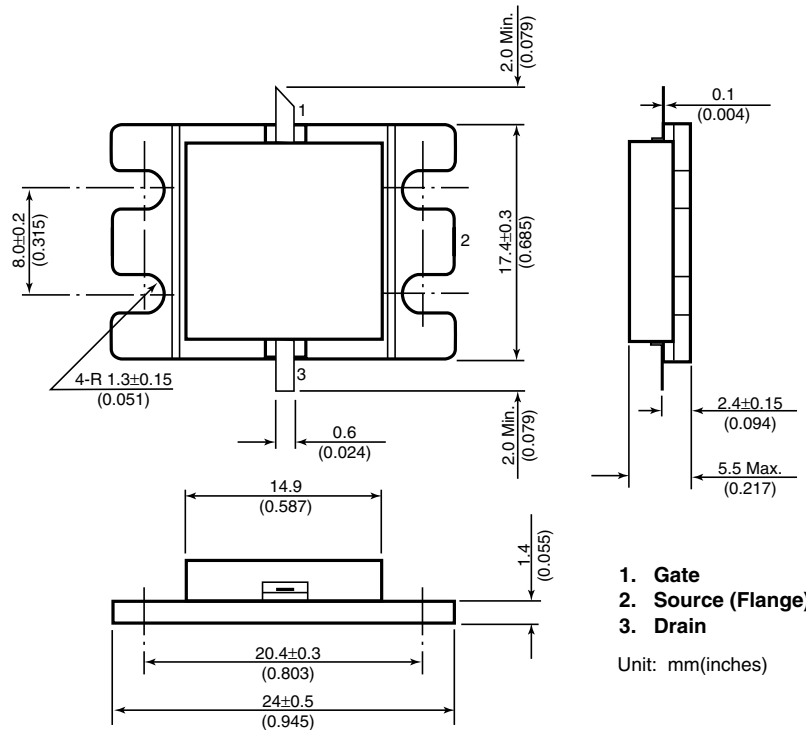
FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.597	172.1	3.400	-18.1	.038	-49.2	.438	-147.7
5800	.583	151.8	3.480	-34.7	.043	-70.2	.407	-164.5
5900	.569	132.1	3.537	-51.2	.049	-89.7	.379	178.5
6000	.552	112.4	3.579	-67.4	.054	-106.8	.351	161.7
6100	.535	93.1	3.612	-83.5	.059	-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

# FLM5964-18F

## C-Band Internally Matched FET

### Case Style "IK"

### Metal-Ceramic Hermetic Package



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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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