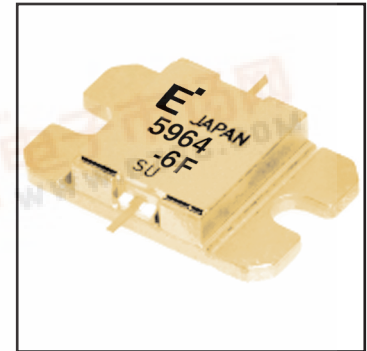


# FLM5964-6F

## C-Band Internally Matched FET

### FEATURES

- High Output Power:  $P_{1dB} = 38.5dBm$  (Typ.)
- High Gain:  $G_{1dB} = 10.0dB$  (Typ.)
- High PAE:  $\eta_{add} = 37%$  (Typ.)
- Low  $IM_3 = -46dBc @ P_o = 27.5dBm$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



### DESCRIPTION

The FLM5964-6F 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	$P_T$	$T_C = 25^\circ C$	31.2	W
Storage Temperature	$T_{stg}$		-65 to +175	$^\circ C$
Channel Temperature	$T_{ch}$		175	$^\circ C$

Eudyna 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 16.0 and -2.8 mA respectively with gate resistance of 100 $\Omega$ .

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 5V, V_{GS} = 0V$	-	2500	3750	mA
Transconductance	$g_m$	$V_{DS} = 5V, I_{DS} = 1625mA$	-	2500	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5V, I_{DS} = 125mA$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -125\mu A$	-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	37.5	38.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		9.0	10.0	-	dB
Drain Current	$I_{dsr}$		-	1625	1900	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 $P_{out} = 27.5dBm$ S.C.L.	-44	-46	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	4.0	4.8	$^\circ C/W$
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	$^\circ C$

CASE STYLE: IB

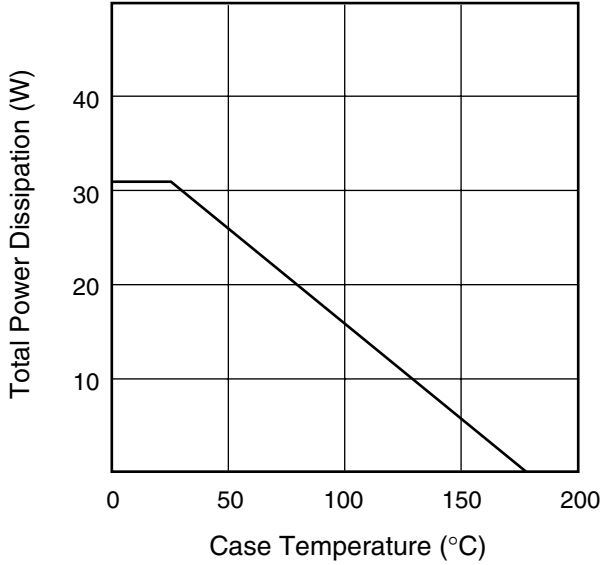
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level



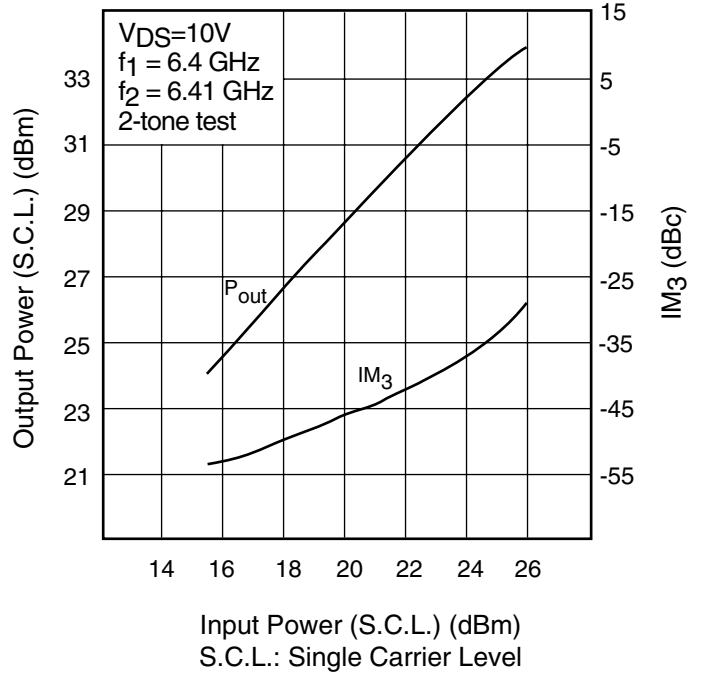
# FLM5964-6F

C-Band Internally Matched FET

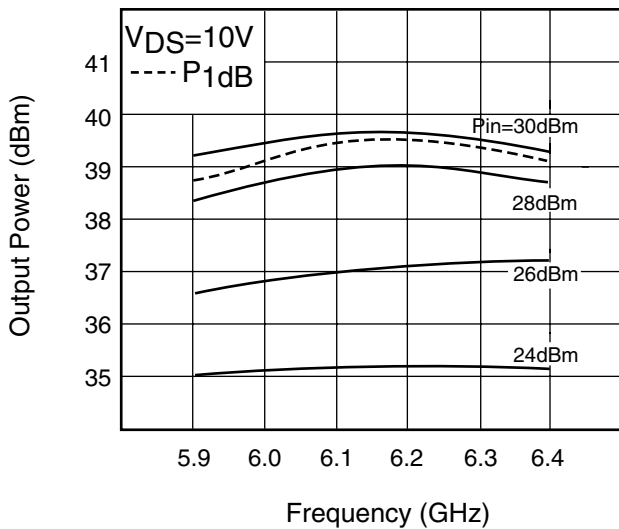
**POWER DERATING CURVE**



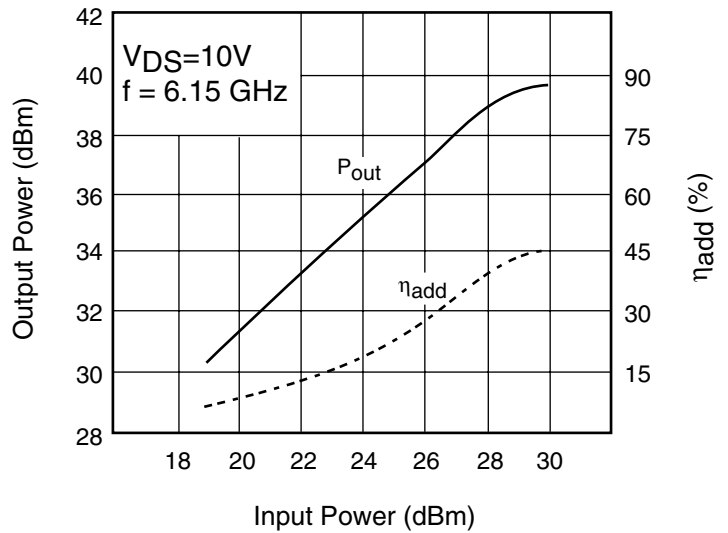
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**



**OUTPUT POWER vs. FREQUENCY**

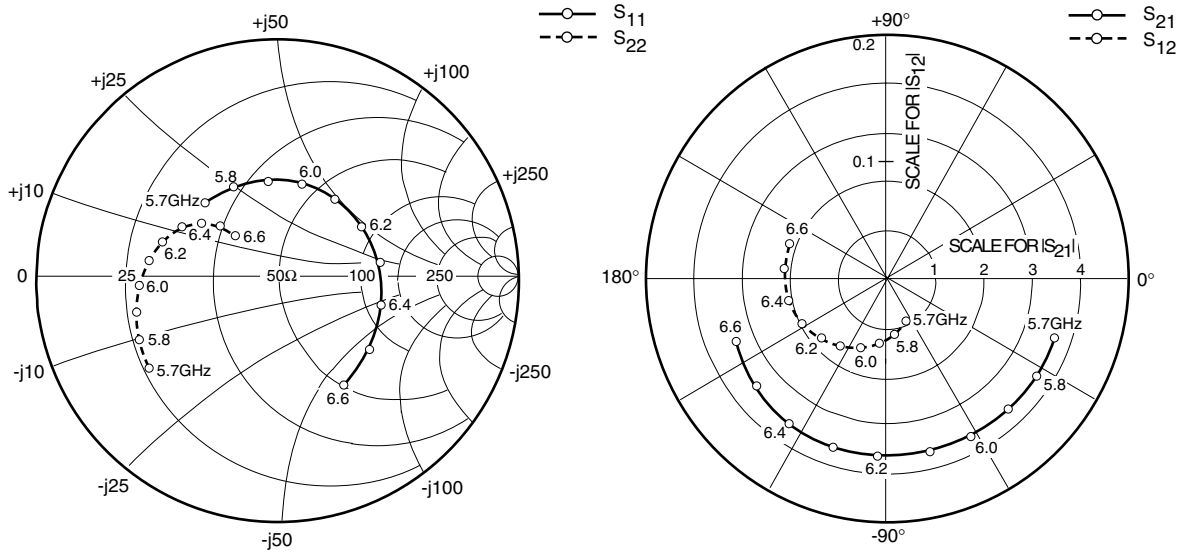


**OUTPUT POWER vs. INPUT POWER**



# FLM5964-6F

## C-Band Internally Matched FET



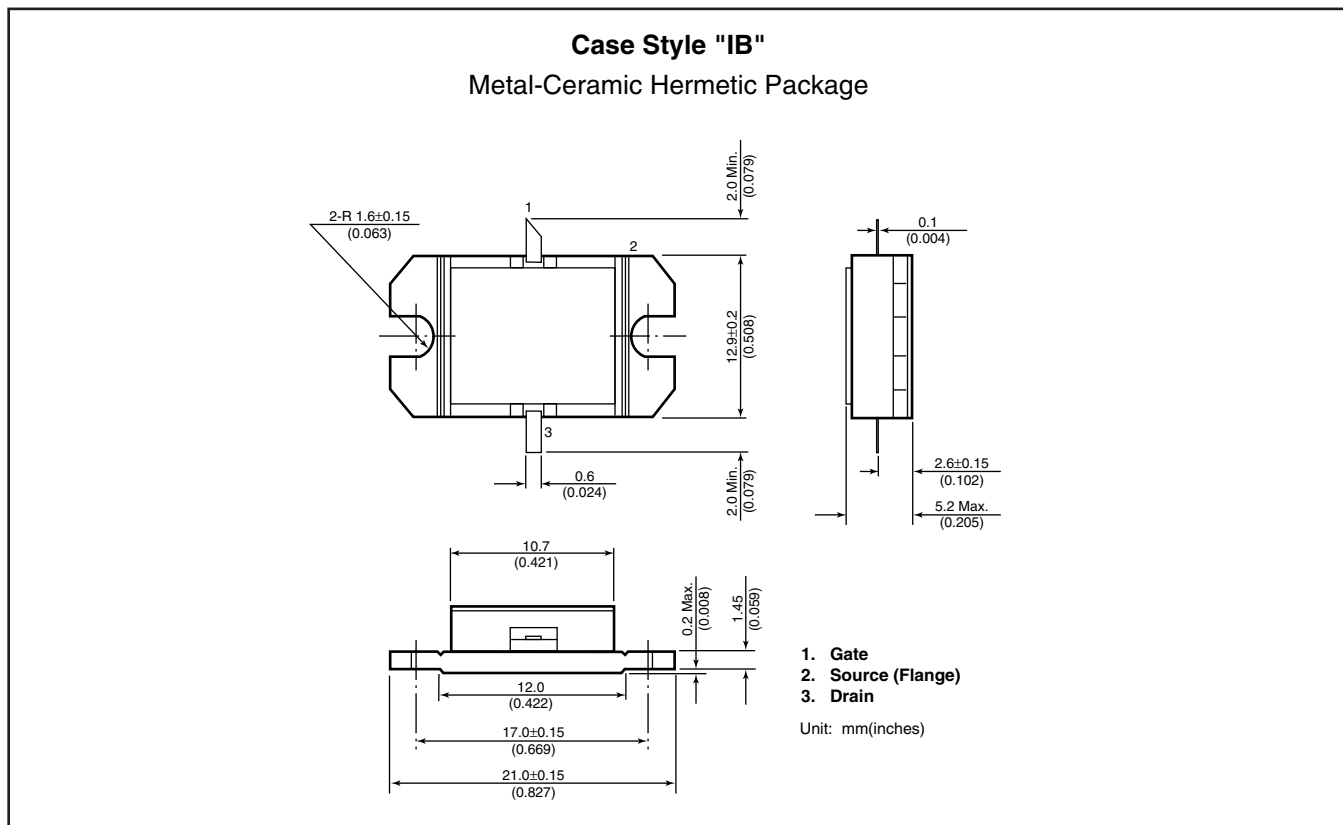
### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 1625mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.432	134.8	3.652	-19.7	.037	-65.3	.660	-145.4
5800	.417	116.5	3.676	-33.5	.045	-83.1	.641	-156.0
5900	.403	97.1	3.681	-47.6	.053	-98.2	.617	-166.4
6000	.395	75.9	3.705	-62.1	.061	-112.7	.589	-176.7
6100	.391	53.8	3.708	-77.0	.068	-126.4	.555	173.0
6200	.398	30.4	3.696	-92.2	.074	-140.2	.512	163.0
6300	.416	7.1	3.661	-107.9	.079	-154.4	.458	153.7
6400	.446	-16.1	3.609	-123.9	.083	-169.3	.396	145.0
6500	.484	-38.9	3.525	-140.6	.085	175.5	.325	138.7
6600	.529	-60.1	3.399	-157.1	.086	160.2	.253	137.3

# FLM5964-6F

## C-Band Internally Matched FET



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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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