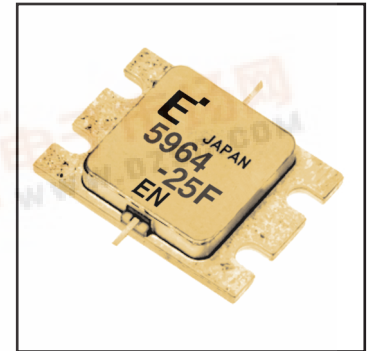


FLM5964-25F

C-Band Internally Matched FET

FEATURES

- High Output Power: $P_{1dB} = 44.5\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 10.0\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 37\%$ (Typ.)
- Low $IM_3 = -46\text{dBc}$ @ $P_o = 33.5\text{dBm}$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- 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.

Eudyna'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	$^\circ\text{C}$

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 64.0 and -11.2 mA respectively with gate resistance of 25 Ω .

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	10	15	A
Transconductance	g_m	$V_{DS} = 5\text{V}, I_{DS} = 6.5\text{A}$	-	10	-	S
Pinch-off Voltage	V_p	$V_{DS} = 5\text{V}, I_{DS} = 500\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -500\mu\text{A}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10\text{V},$ $I_{DS} = 0.65I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4\text{GHz},$ $Z_S = Z_L = 50\text{ohm}$	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	η_{add}		-	37	-	%
Gain Flatness	ΔG		-	-	± 0.6	dB
3rd Order Intermodulation Distortion	IM_3	$f = 6.4\text{GHz}, \Delta f = 10\text{MHz}$ 2-Tone Test $P_{out} = 33.5\text{dBm S.C.L.}$	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.4	1.6	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	ΔT_{ch}	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	100	$^\circ\text{C}$

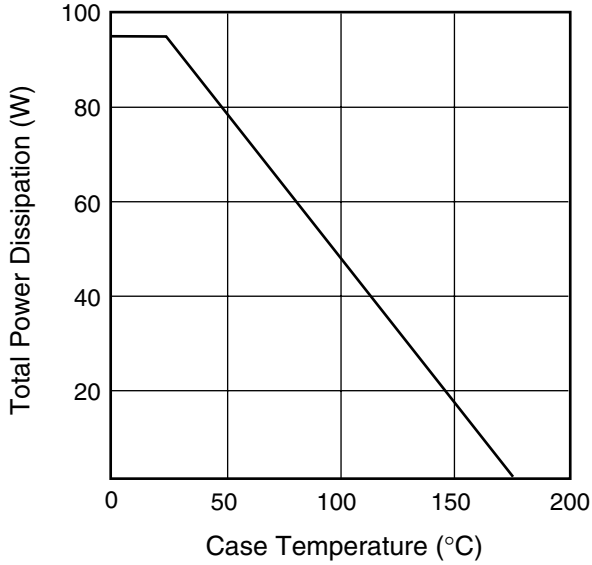
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

CASE STYLE: IK

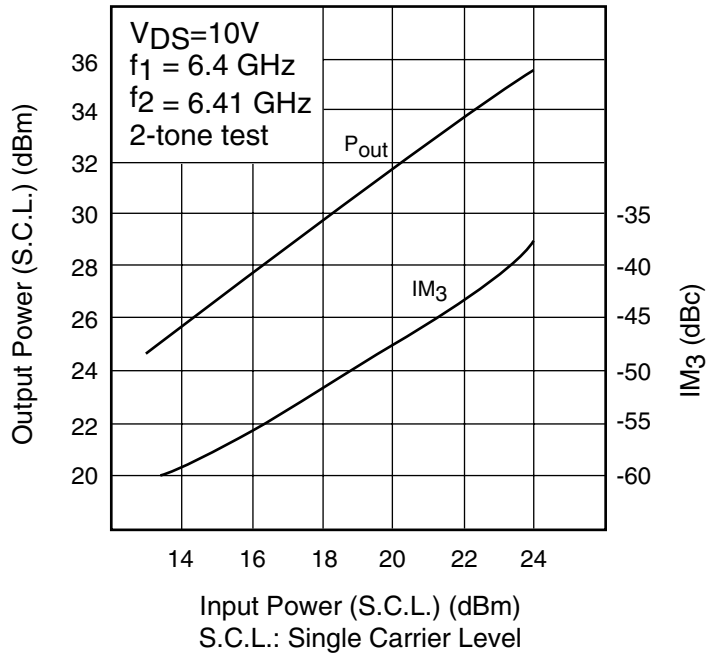
FLM5964-25F

C-Band Internally Matched FET

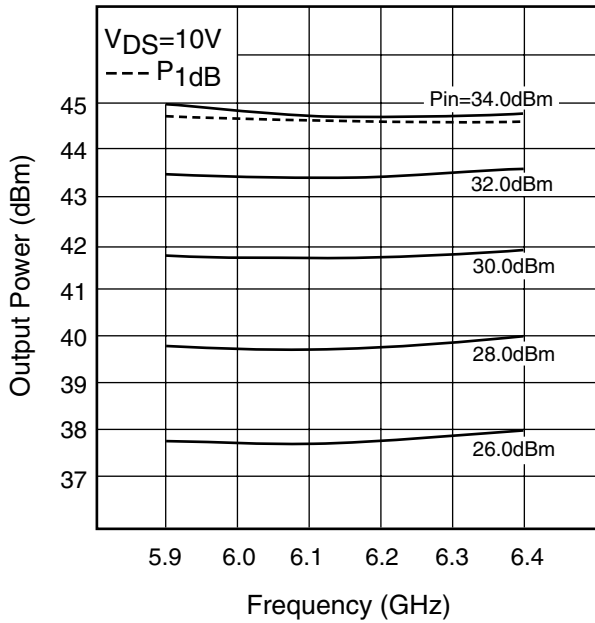
POWER DERATING CURVE



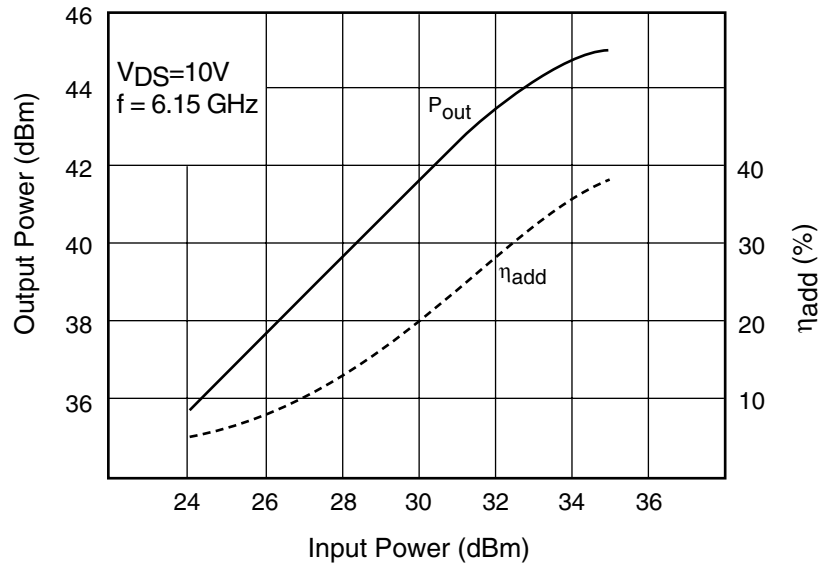
OUTPUT POWER & IM₃ vs. INPUT POWER



OUTPUT POWER vs. FREQUENCY

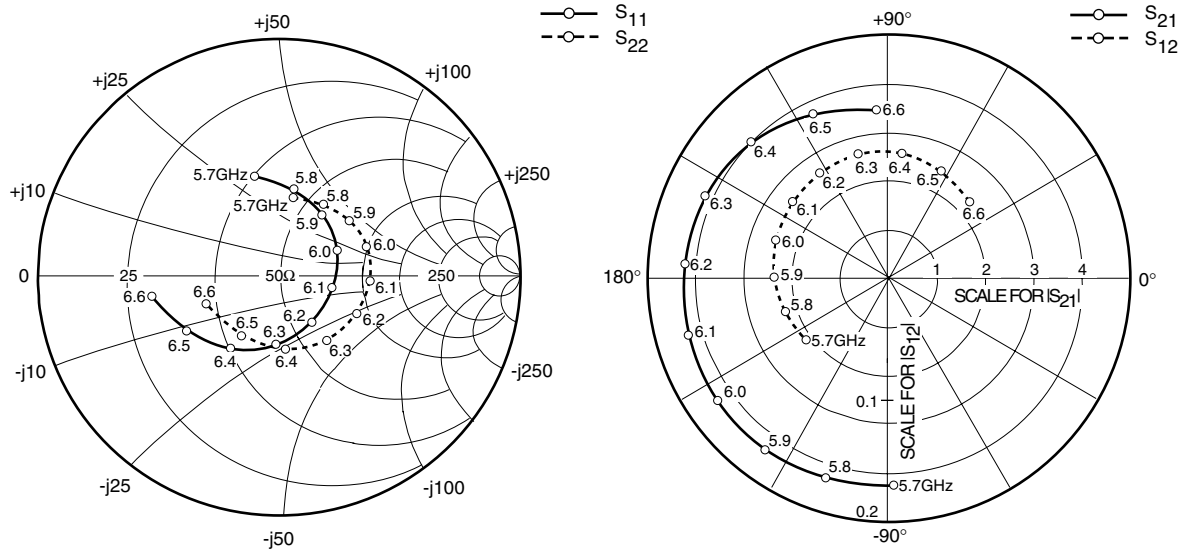


OUTPUT POWER vs. INPUT POWER



FLM5964-25F

C-Band Internally Matched FET



S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 6500mA$

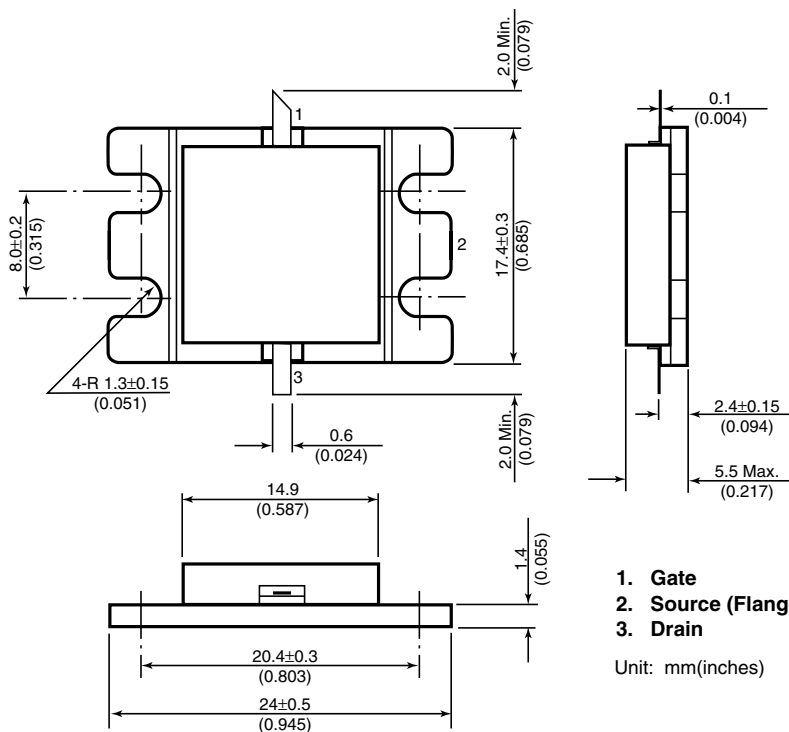
FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	.428	104.1	4.249	-89.0	.085	-144.0	.335	79.6
5800	.369	81.2	4.311	-107.4	.090	-162.3	.356	59.2
5900	.311	55.2	4.347	-126.1	.096	179.4	.371	38.7
6000	.261	24.5	4.354	-144.9	.099	161.1	.378	18.6
6100	.230	-13.9	4.333	-164.2	.103	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

FLM5964-25F

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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