

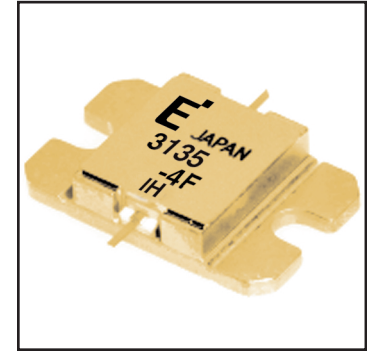
### FEATURES

- High Output Power:  $P_{1dB} = 36.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 12.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 38\%$  (Typ.)
- Low  $IM_3 = -45\text{dBc}$  @  $P_o = 25.5\text{dBm}$
- Broad Band: 3.1 ~ 3.5GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package

### DESCRIPTION

The FLM3135-4F 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	$P_T$	$T_C = 25^\circ\text{C}$	25	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 16.0 and -2.2 mA respectively with gate resistance of  $100\Omega$ .

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	1950	2900	mA
Transconductance	$g_m$	$V_{DS} = 5\text{V}, I_{DS} = 1100\text{mA}$	-	1000	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS} = 90\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -90\mu\text{A}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V},$ $I_{DS} = 0.55 I_{DSS}$ (Typ.), $f = 3.1 \sim 3.5 \text{GHz},$ $Z_S = Z_L = 50 \text{ohm}$	35.5	36.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		11.0	12.0	-	dB
Drain Current	$I_{dsr}$		-	1100	1300	mA
Power-added Efficiency	$\eta_{add}$		-	38	-	%
Gain Flatness	$\Delta G$		-	-	$\pm 0.6$	dB
3rd Order Intermodulation Distortion	$IM_3$		$f = 3.5 \text{GHz}, \Delta f = 10 \text{MHz}$ 2-Tone Test $P_{out} = 25.5\text{dBm}$ S.C.L.	-42	-45	-
Thermal Resistance	$R_{th}$	Channel to Case	-	5.0	6.0	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	$\Delta T_{ch}$	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	80	$^\circ\text{C}$

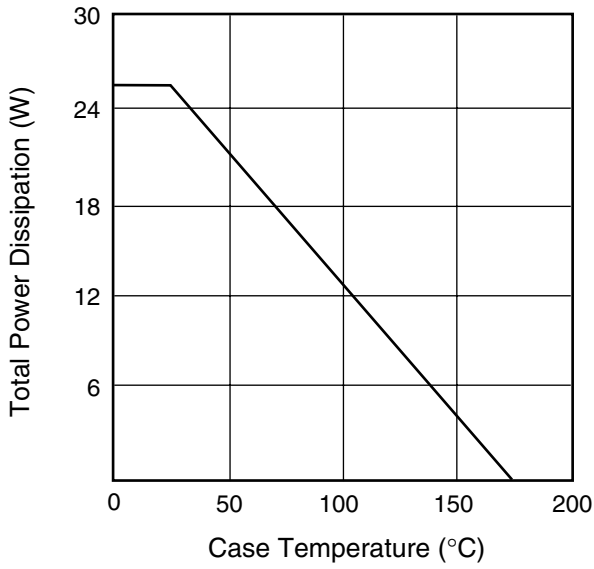
CASE STYLE: IB

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

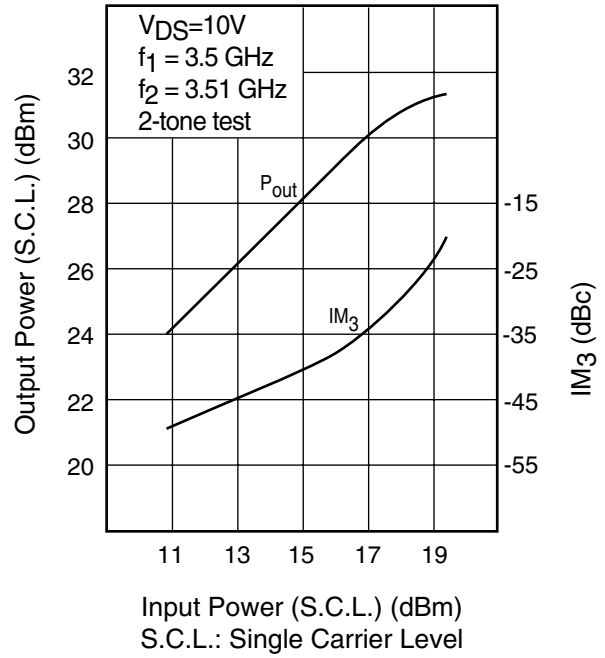
# FLM3135-4F

## C-Band Internally Matched FET

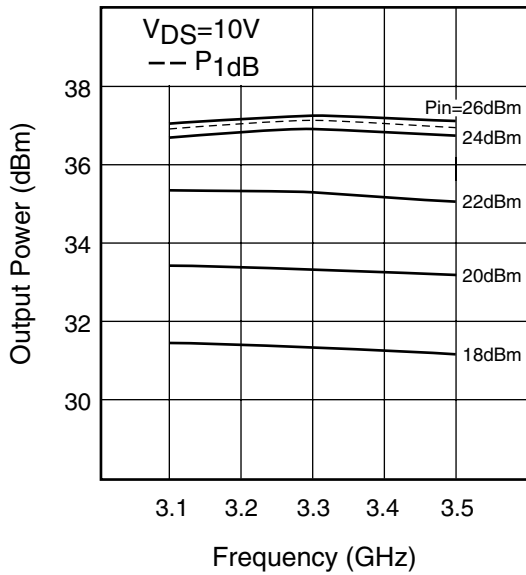
**POWER DERATING CURVE**



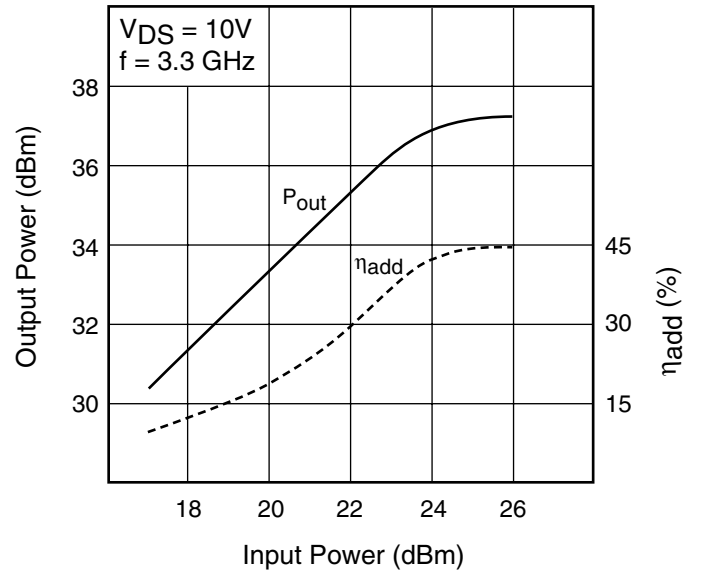
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

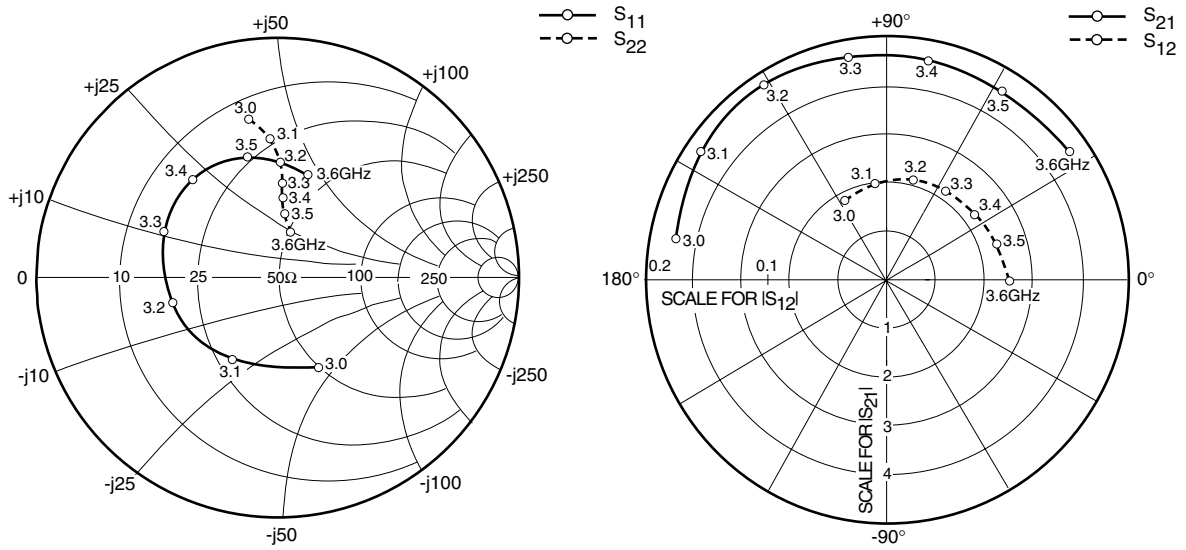


**OUTPUT POWER vs. FREQUENCY**



**OUTPUT POWER vs. INPUT POWER**





### S-PARAMETERS

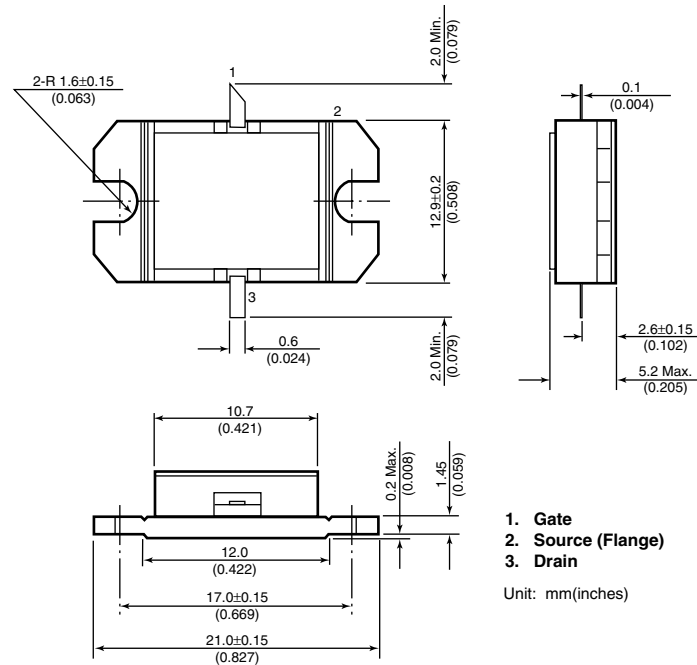
$V_{DS} = 10V, I_{DS} = 1100mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
3000	.404	-66.7	4.467	169.3	.074	119.4	.678	100.7
3100	.388	-120.4	4.711	145.8	.081	97.0	.582	93.1
3200	.450	-167.3	4.741	122.5	.085	75.2	.478	88.6
3300	.515	158.3	4.649	100.6	.089	55.6	.395	87.4
3400	.548	130.3	4.553	79.5	.090	36.8	.332	86.9
3500	.528	104.0	4.545	58.4	.095	18.6	.275	84.3
3600	.445	74.0	4.607	35.5	.101	-0.5	.201	76.7

# FLM3135-4F

## C-Band Internally Matched FET

### Case Style "IB" 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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