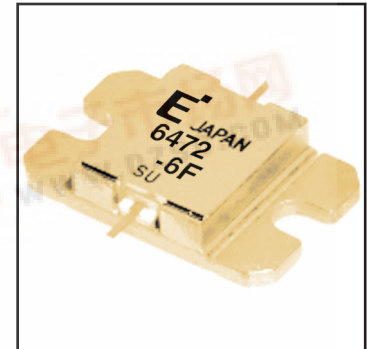


# FLM6472-6F

## C-Band Internally Matched FET

### FEATURES

- High Output Power:  $P_{1dB} = 38.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 9.5\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 37\%$  (Typ.)
- Low  $IM_3 = -46\text{dBc}$ @ $P_o = 27.5\text{dBm}$
- Broad Band: 6.4 ~ 7.2GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



### DESCRIPTION

The FLM6472-6F 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 $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	$P_T$	$T_C = 25^\circ\text{C}$	31.2	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 -2.8 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	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	2500	3750	mA
Transconductance	$g_m$	$V_{DS} = 5\text{V}, I_{DS} = 1625\text{mA}$	-	2500	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS} = 125\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -125\mu\text{A}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V},$ $I_{DS} = 0.65 I_{DSS}$ (Typ.), $f = 6.4 \sim 7.2 \text{GHz},$ $Z_S = Z_L = 50 \text{ohm}$	37.5	38.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		8.5	9.5	-	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	$IM_3$	$f = 7.2 \text{GHz}, \Delta f = 10 \text{MHz}$ 2-Tone Test $P_{out} = 27.5\text{dBm S.C.L.}$	-44	-46	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	4.0	4.8	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	$\Delta T_{ch}$	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	80	$^\circ\text{C}$

CASE STYLE: IB

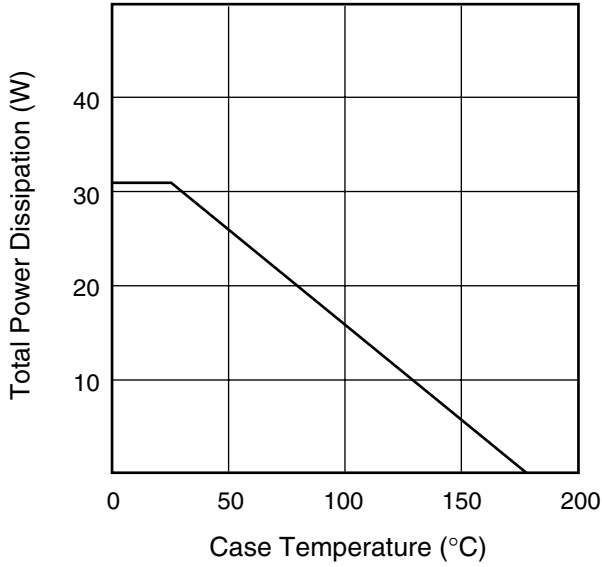
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level



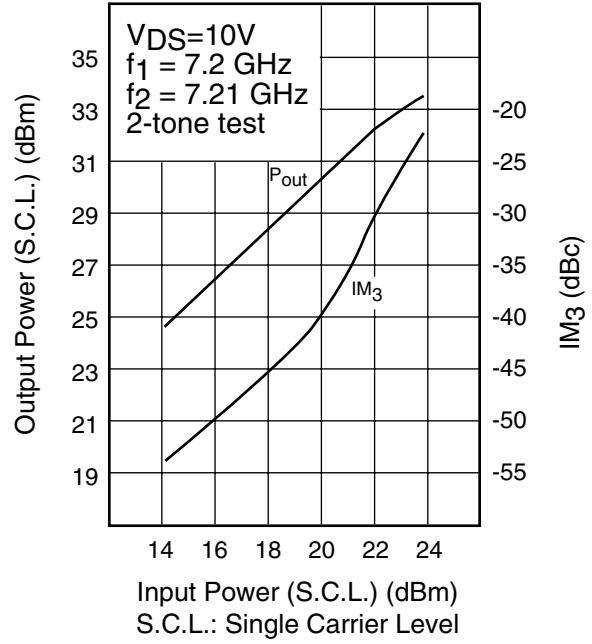
# FLM6472-6F

C-Band Internally Matched FET

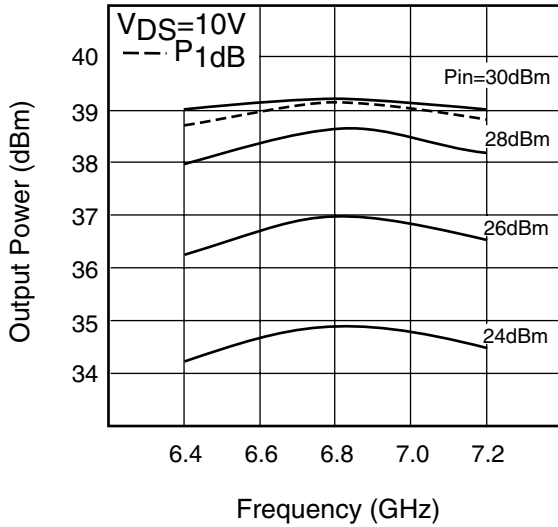
### POWER DERATING CURVE



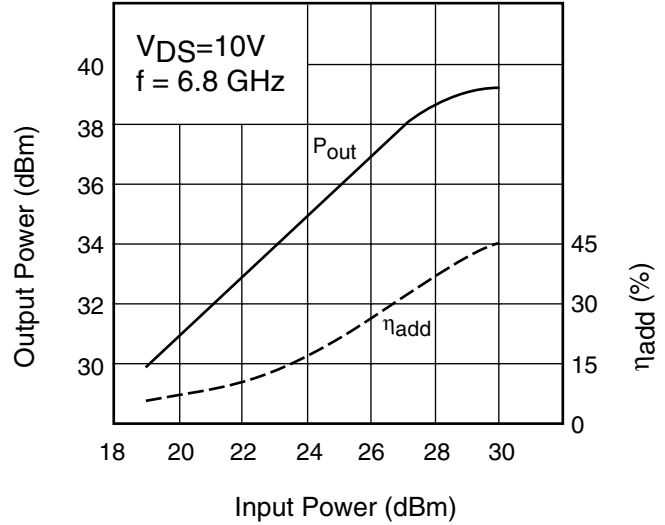
### OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER



### OUTPUT POWER vs. FREQUENCY

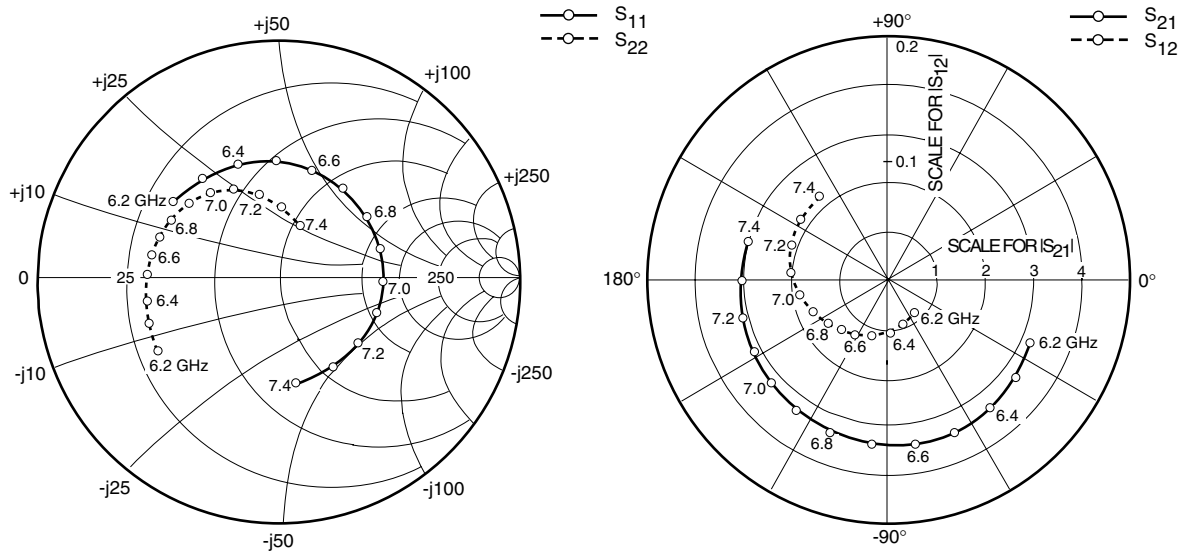


### OUTPUT POWER vs. INPUT POWER



# FLM6472-6F

## C-Band Internally Matched FET



### S-PARAMETERS

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

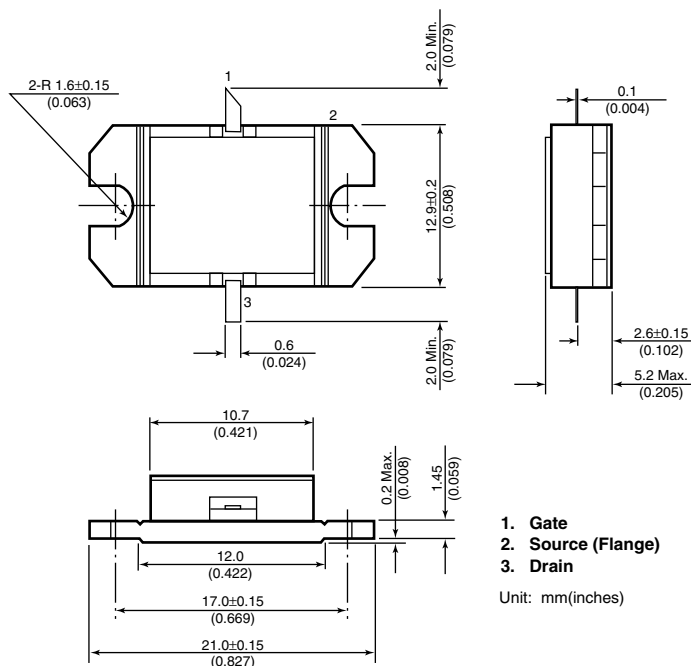
FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6200	.539	144.1	3.216	-24.3	.034	-53.7	.588	-149.8
6300	.521	127.1	3.305	-37.9	.039	-73.7	.574	-161.0
6400	.507	109.4	3.354	-52.0	.044	-91.6	.560	-171.3
6500	.490	91.3	3.413	-66.7	.049	-107.9	.547	179.3
6600	.474	72.5	3.438	-81.0	.054	-122.4	.538	170.2
6700	.462	53.7	3.410	-96.0	.058	-134.3	.529	161.2
6800	.451	34.7	3.374	-110.8	.063	-145.4	.514	151.5
6900	.442	16.2	3.309	-125.4	.069	-158.2	.493	140.8
7000	.435	-1.9	3.232	-139.2	.076	-171.4	.461	129.3
7100	.431	-19.1	3.159	-152.1	.083	175.6	.421	117.2
7200	.429	-38.0	3.124	-166.0	.086	160.9	.367	103.9
7300	.432	-57.9	3.079	179.9	.088	146.8	.301	88.4
7400	.441	-78.9	3.035	164.7	.090	130.5	.234	70.5

# FLM6472-6F

## C-Band Internally Matched FET

### Case Style "IB"

#### Metal-Ceramic Hermetic Package



For further information please contact:

#### Eudyna Devices USA Inc.

2355 Zanker Rd.  
San Jose, CA 95131-1138, U.S.A.  
TEL: (408) 232-9500  
FAX: (408) 428-9111  
[www.us.eudyna.com](http://www.us.eudyna.com)

#### Eudyna Devices Europe Ltd.

Network House  
Norreys Drive  
Maidenhead, Berkshire SL6 4FJ  
United Kingdom  
TEL: +44 (0) 1628 504800  
FAX: +44 (0) 1628 504888

#### Eudyna Devices Asia Pte Ltd.

Hong Kong Branch  
Rm. 1101, Ocean Centre, 5 Canton Rd.  
Tsim Sha Tsui, Kowloon, Hong Kong  
TEL: +852-2377-0227  
FAX: +852-2377-3921

#### Eudyna Devices Inc.

Sales Division  
1, Kanai-cho, Sakae-ku  
Yokohama, 244-0845, Japan  
TEL: +81-45-853-8156  
FAX: +81-45-853-8170

### 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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