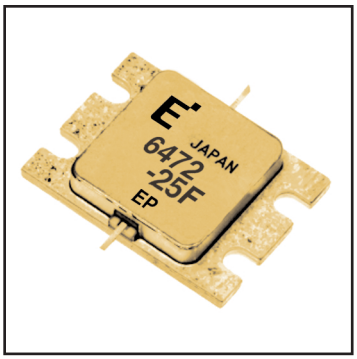
FLM6472-25F

C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB} = 44.5dBm (Typ.)
- High Gain: G_{1dB} = 9.5dB (Typ.)
- High PAE: η_{add} = 38% (Typ.)
- Low IM_3 = -46dBc@Po = 33.5dBm
- Broad Band: 6.4 ~ 7.2GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package



DESCRIPTION

The FLM6472-25F 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 Ta=25°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°C	93.7	W
Storage Temperature	T_{stg}		-65 to +175	°C
Channel Temperature	T_{ch}		175	°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 64.0 and -11.2 mA respectively with gate resistance of 25Ω.

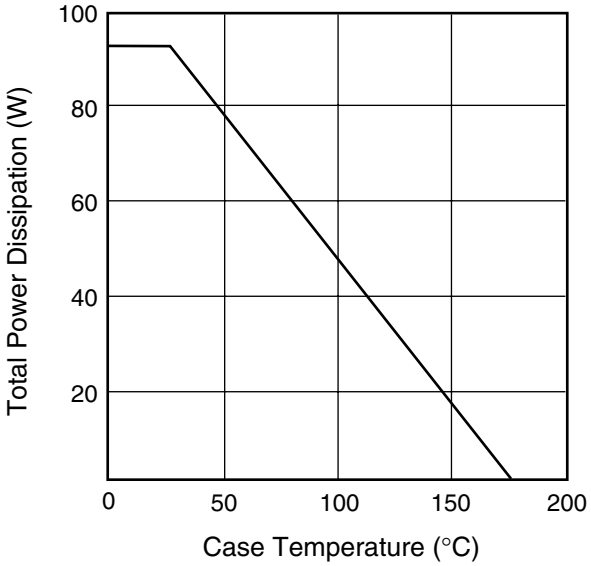
ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	V_{DS} = 5V, V_{GS} = 0V	-	10	15	A
Transconductance	g_m	V_{DS} = 5V, I_{DS} = 6500mA	-	10	-	S
Pinch-off Voltage	V_p	V_{DS} = 5V, I_{DS} = 500mA	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	I_{GS} = -500μA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS} =10V, I_{DS} = 0.65 I_{DSS} (Typ.), f = 6.4 ~ 7.2 GHz, Z_S=Z_L= 50 ohm	43.5	44.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		8.5	9.5	-	dB
Drain Current	I_{dsr}		-	6500	7600	mA
Power-added Efficiency	ηadd		-	38	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
3rd Order Intermodulation Distortion	IM_3	f = 7.2 GHz, Δf = 10 MHz 2-Tone Test P_{out} = 33.5dBm S.C.L.	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.4	1.6	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{dsr} x R_{th}	-	-	100	°C

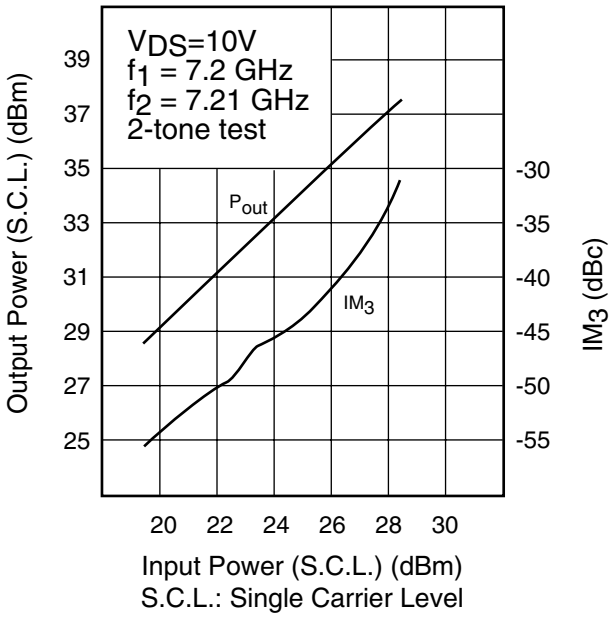
CASE STYLE: IK

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

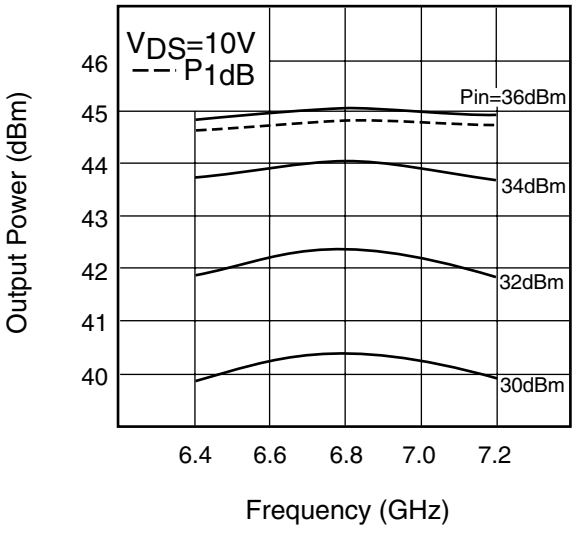
POWER DERATING CURVE



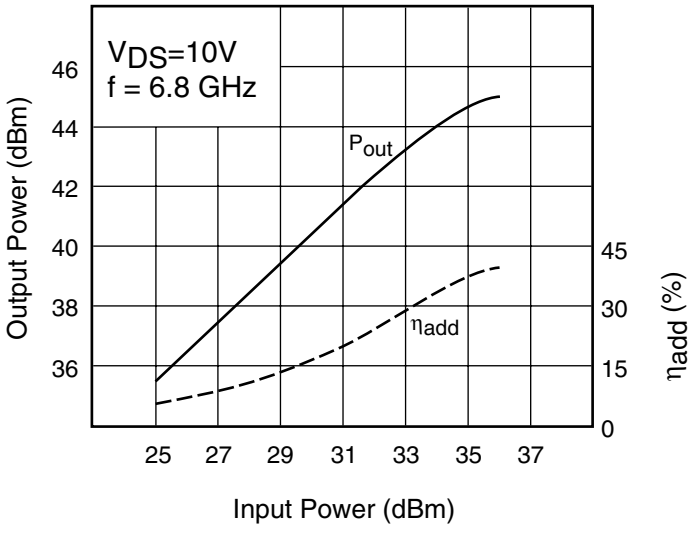
OUTPUT POWER & IM3 vs. INPUT POWER

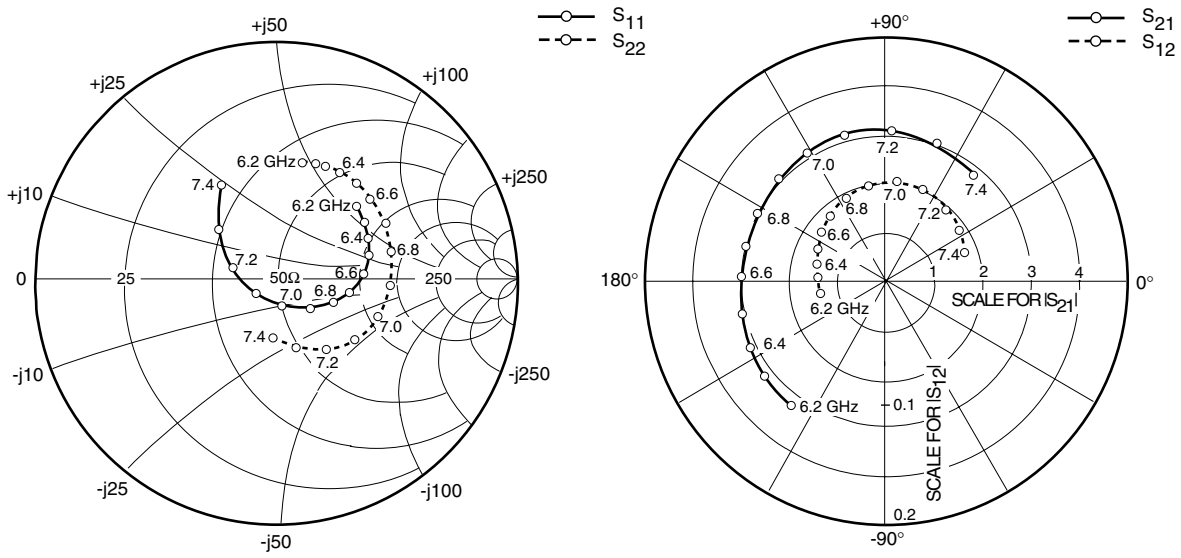


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER





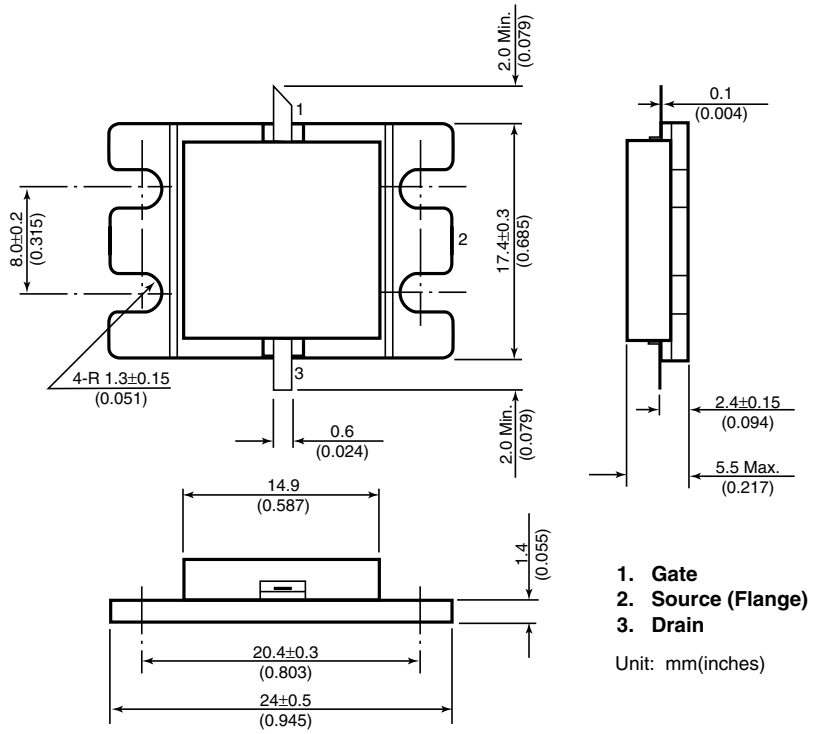
S-PARAMETERS

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

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6200	.456	42.1	3.198	-129.2	.057	-169.6	.510	71.7
6300	.444	33.6	3.139	-143.1	.058	179.0	.512	66.4
6400	.426	24.4	3.089	-154.7	.061	167.8	.512	59.8
6500	.397	15.3	3.018	-167.8	.064	156.1	.513	51.4
6600	.358	4.4	3.044	178.4	.069	144.0	.512	41.3
6700	.312	-6.6	3.038	165.6	.071	131.3	.502	28.9
6800	.254	-21.0	3.063	151.7	.076	117.2	.488	14.6
6900	.183	-40.2	3.101	136.9	.079	101.6	.466	-1.8
7000	.114	-77.1	3.148	121.1	.081	84.6	.437	-19.7
7100	.104	-149.7	3.164	105.9	.082	68.7	.401	-37.0
7200	.195	164.3	3.139	88.1	.076	53.1	.354	-55.3
7300	.325	138.9	3.042	69.6	.073	32.7	.298	-74.2
7400	.454	120.5	2.871	50.6	.069	19.4	.238	-93.9

Case Style "IK"

Metal-Ceramic Hermetic Package



1. **Gate**
2. **Source (Flange)**
3. **Drain**

Unit: mm(inches)

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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.**