

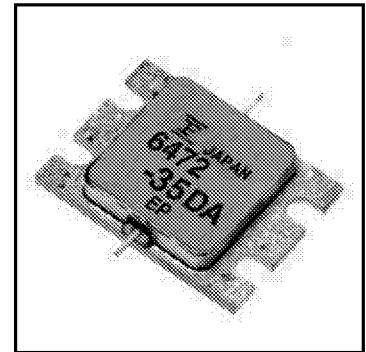
# FLM6472-35DA

## Internally Matched Power GaAs FETs



### FEATURES

- High Output Power:  $P_{1dB} = 45.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 6.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 33\%$  (Typ.)
- Low  $IM_3 = -45\text{dBc}@P_o = 34.5\text{dBm}$
- Broad Band: 6.4 ~ 7.2GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



### DESCRIPTION

The FLM6472-35DA is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

Fujitsu'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	$P_T$	$T_C = 25^\circ\text{C}$	115.4	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 26mA and -23.2mA respectively with gate resistance of 10 $\Omega$ .

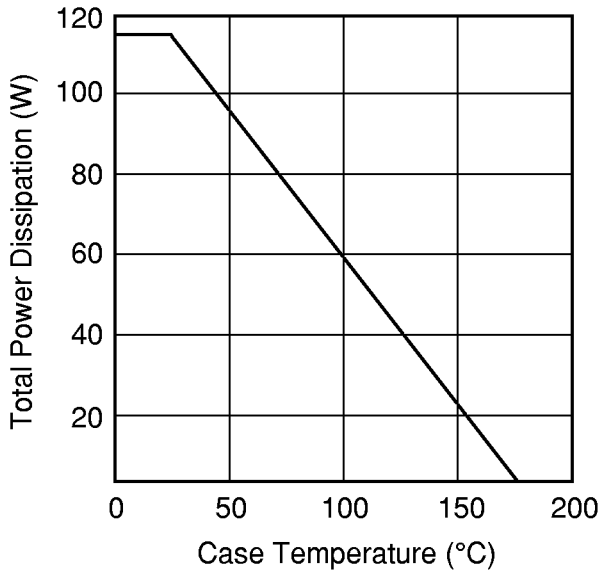
### ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$ )

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	18.0	24.0	A
Transconductance	$g_m$	$V_{DS} = 5\text{V}, I_{DS} = 8000\text{mA}$	-	8000	-	mS
Pinch-off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS} = 960\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -960\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V},$ $I_{DS} = 0.55 I_{DSS}$ (Typ.), $f = 6.4 \sim 7.2 \text{GHz},$ $Z_S = Z_L = 50 \text{ohm}$	44.5	45.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		5.0	6.0	-	dB
Drain Current	$I_{dsr}$		-	8000	9000	mA
Power-added Efficiency	$\eta_{add}$		-	33	-	%
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 $P_{out} = 34.5\text{dBm S.C.L.}$	-42	-45	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	1.1	1.3	$^\circ\text{C}/\text{W}$
Channel Temperature Rise	$\Delta T_{ch}$	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	100	$^\circ\text{C}$

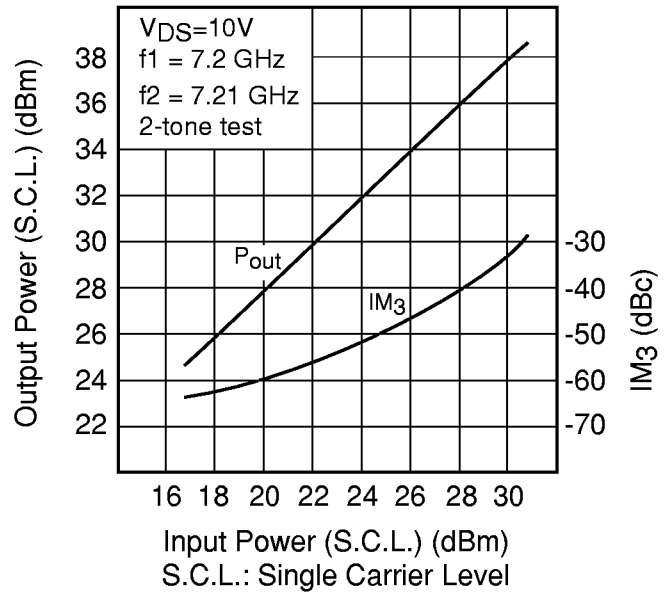
CASE STYLE: IK

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

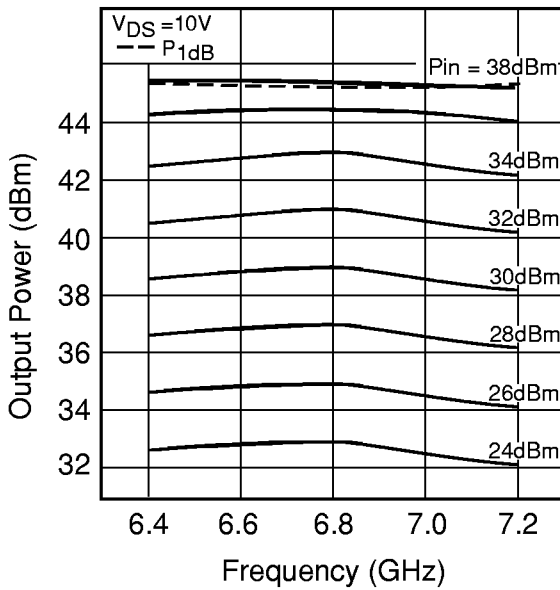
**POWER DERATING CURVE**



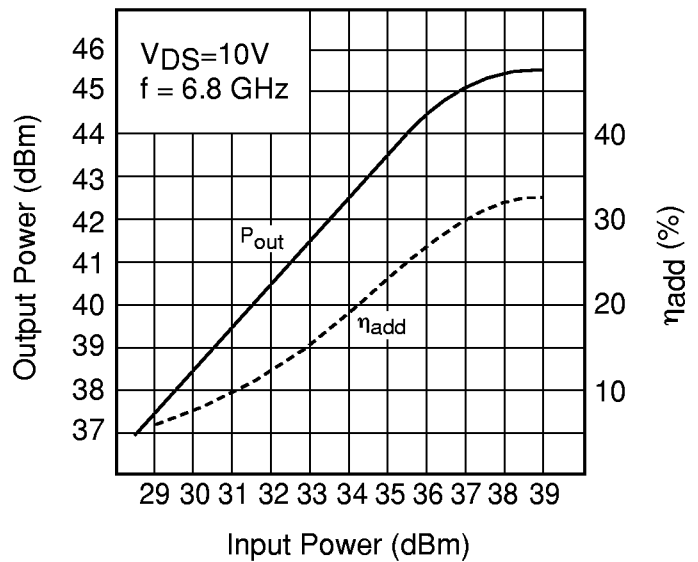
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

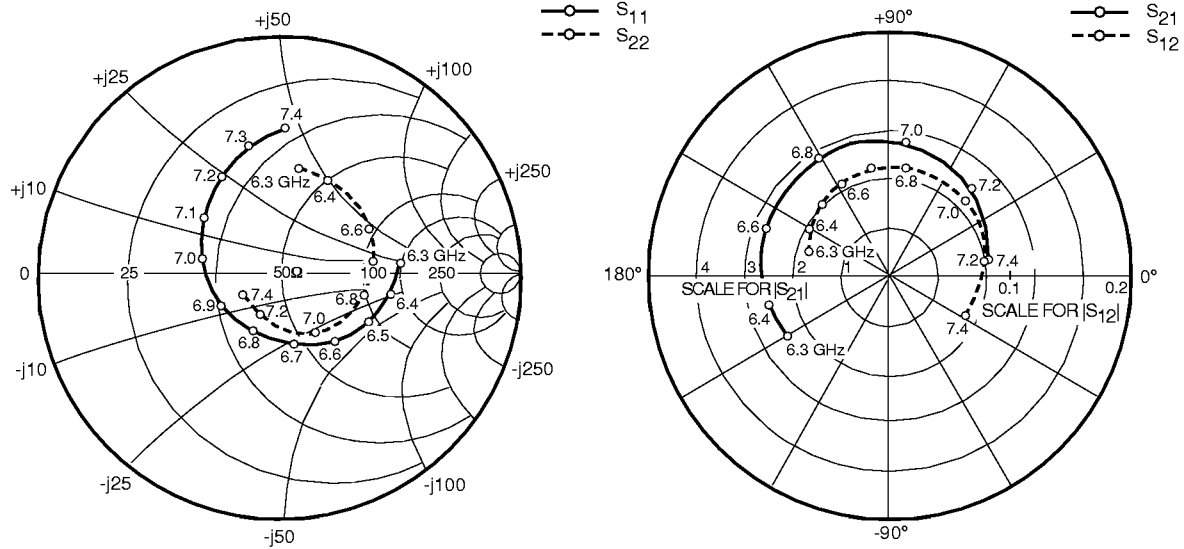


**OUTPUT POWER vs. FREQUENCY**



**OUTPUT POWER vs. INPUT POWER**



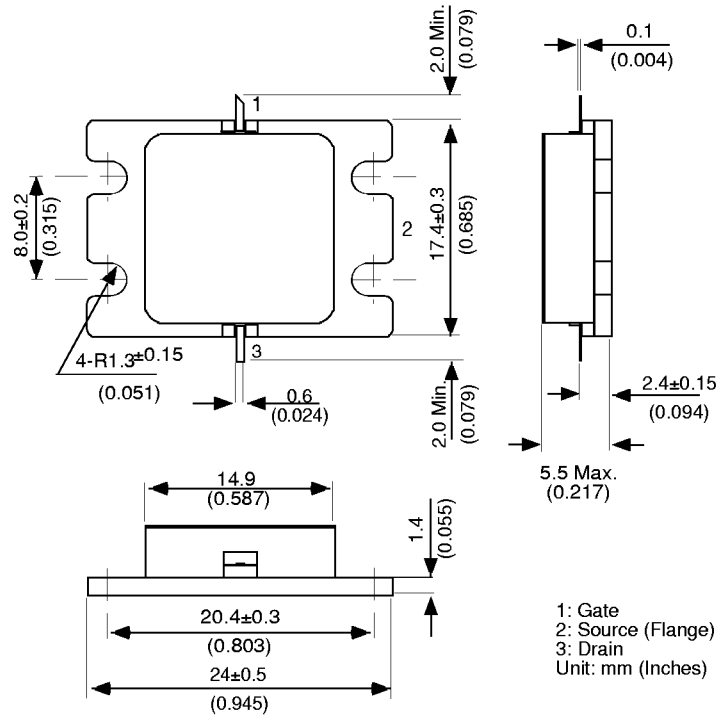


### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 8000mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
6300	0.513	6.8	2.486	-149.7	0.071	166.1	0.464	79.7
6400	0.470	-8.2	2.570	-165.8	0.075	151.8	0.453	63.8
6500	0.412	-26.6	2.649	177.3	0.080	134.9	0.437	46.5
6600	0.347	-48.4	2.732	159.6	0.084	118.4	0.423	28.4
6700	0.281	-77.6	2.789	141.5	0.088	99.9	0.397	9.8
6800	0.245	-116.7	2.818	122.1	0.089	81.8	0.364	-10.3
6900	0.261	-159.4	2.793	102.5	0.089	63.2	0.322	-32.8
7000	0.329	165.5	2.725	82.9	0.088	43.4	0.272	-56.8
7100	0.405	141.9	2.614	65.4	0.085	27.5	0.223	-82.9
7200	0.493	120.7	2.468	46.2	0.081	7.8	0.181	-119.0
7300	0.566	102.9	2.287	26.9	0.075	-11.8	0.170	-164.0
7400	0.626	87.5	2.098	8.2	0.070	-30.0	0.206	154.7

**Case Style "IK"**  
Metal-Ceramic Hermetic Package



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