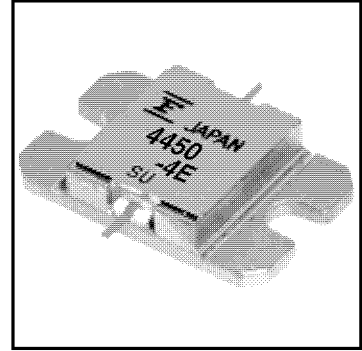


FEATURES

- High Output Power: $P_{1dB} = 36dBm$ (Typ.)
- High Gain: $G_{1dB} = 11dB$ (Typ.)
- High PAE: $\eta_{add} = 33%$ (Typ.)
- Low $IM_3 = -45dBc@P_o = 25dBm$
- Broad Band: 4.4 ~ 5.0GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



DESCRIPTION

The FLM4450-4E 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 $T_a=25^\circ C$)

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	$T_C = 25^\circ C$	25	W
Storage Temperature	T_{stg}		-65 to +175	$^\circ C$
Channel Temperature	T_{ch}		175	$^\circ C$

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 8.0 and -2.2 mA respectively with gate resistance of 100 Ω .

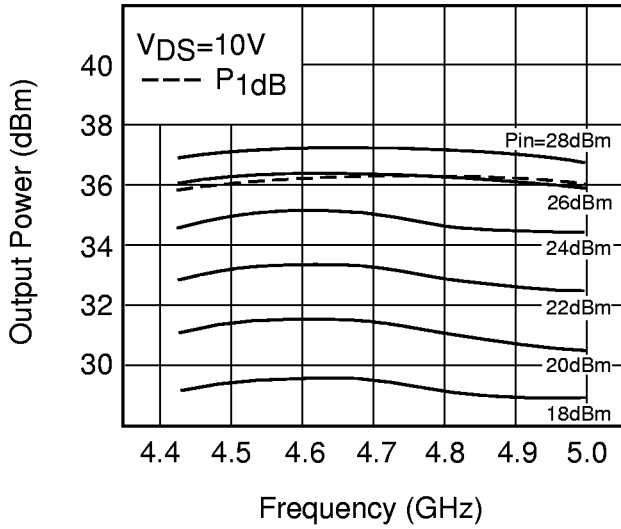
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ C$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0V$	-	1800	2700	mA
Transconductance	g_m	$V_{DS} = 5V, I_{DS} = 1100mA$	-	1000	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 5V, I_{DS} = 90mA$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -90\mu A$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10V,$ $I_{DS} = 0.6 I_{DSS}$ (Typ.), $f = 4.4 \sim 5.0$ GHz, $Z_S = Z_L = 50$ ohm	35	36	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		10	11	-	dB
Drain Current	I_{dsr}		-	1100	1300	mA
Power-added Efficiency	η_{add}		-	33	-	%
Gain Flatness	ΔG		-	-	± 0.6	dB
3rd Order Intermodulation Distortion	IM_3	$f = 5.0$ GHz, $\Delta f = 10$ MHz 2-Tone Test $P_{out} = 25dBm$ S.C.L.	-42	-45	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	5	6	$^\circ C/W$

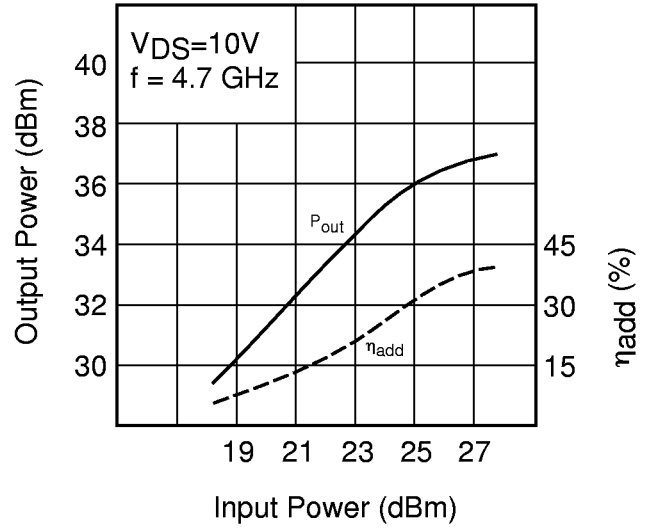
CASE STYLE: IB

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

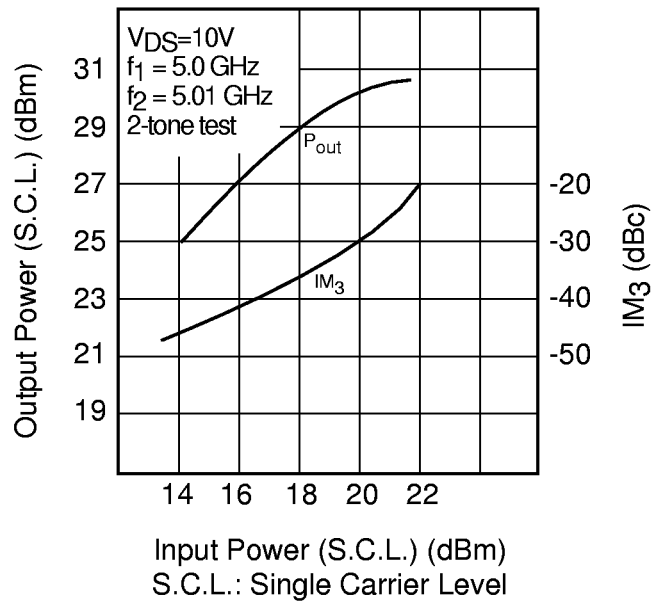
OUTPUT POWER vs. FREQUENCY

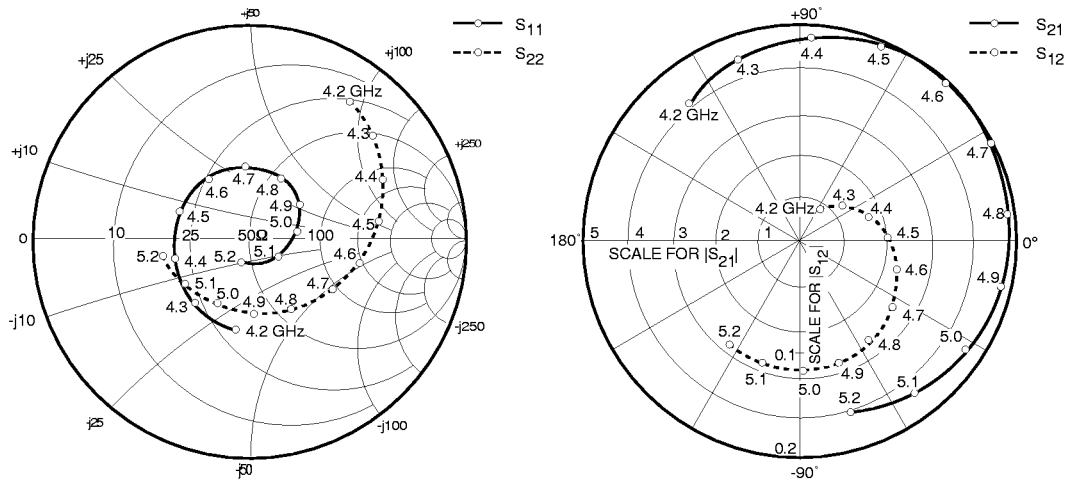


OUTPUT POWER vs. INPUT POWER



OUTPUT POWER & IM₃ 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
4200	.422	-98.3	4.167	127.5	.036	58.7	.791	55.3
4300	.385	-131.3	4.520	109.0	.050	39.7	.735	42.0
4400	.363	-166.4	4.808	88.4	.064	20.6	.675	25.3
4500	.357	159.1	4.940	68.9	.079	1.3	.594	9.8
4600	.349	126.0	5.012	48.0	.092	-16.8	.511	-11.2
4700	.340	95.7	4.984	27.9	.103	-35.5	.442	-32.1
4800	.313	66.8	4.880	7.7	.111	-54.6	.367	-59.1
4900	.272	38.3	4.735	-12.4	.116	-72.7	.336	-88.4
5000	.211	8.2	4.545	-32.4	.118	-88.5	.328	-118.9
5100	.140	-34.3	4.334	-52.6	.117	-107.0	.367	-145.4
5200	.108	-112.6	4.064	-73.0	.115	-123.4	.404	-169.2

Case Style "IB"
Metal-Ceramic Hermetic Package

