

FEATURES

- High Output Power: P1dB=46.5dBm(Typ.)
- High Gain: G1dB=10.0dB(Typ.)
- High PAE: η_{add} =41%(Typ.)
- Broad Band: 4.4 to 5.0GHz
- Impedance Matched Zin/Zout = 50ohm
- Hermetically Sealed Package



DESCRIPTION

The FLM4450-45F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50ohm system.

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25deg.C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	15	V
Gate-Source Voltage	V_{GS}	-5	V
Total Power Dissipation	P_T	115.4	W
Storage Temperature	T_{stg}	-65 to +175	deg.C
Channel Temperature	T_{ch}	175	deg.C

RECOMMENDED OPERATING CONDITION (Case Temperature Tc=25deg.C)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V_{DS}		≤ 12	V
Forward Gate Current	I_{GF}	$R_G=13\text{ohm}$	≤ 107.2	mA
Reverse Gate Current	I_{GR}	$R_G=13\text{ohm}$	≥ -23.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25deg.C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	16.0	24.0	A
Transconductance	gm	$V_{DS}=5V, I_{DS}=8.0A$	-	8000	-	mS
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=960mA$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS}=-960\mu A$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS}=12V$	46.0	46.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}	$f=4.4 \text{ to } 5.0 \text{ GHz}$	9.0	10.0	-	dB
Drain Current	I_{dsr}	$I_{DS}=7.0A \text{ (Typ.)}$	-	8.0	10.0	A
Power-Added Efficiency	η_{add}	$Z_s=Z_L=50\text{ohm}$	-	41	-	%
Gain Flatness	ΔG		-	-	1.2	dB
Thermal Resistance	R_{th}	Channel to Case	-	1.1	1.3	deg.C/W
Channel Temperature Rise	ΔT_{ch}	$12V \times I_{dsr} \times R_{th}$	-	-	100	deg.C

G.C.P.: Gain Compression Point

CASE STYLE

IK

ESD

Class 3A

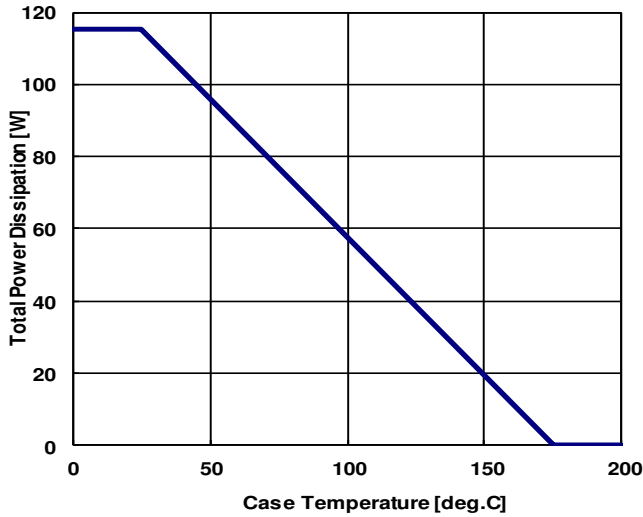
4000V to 8000V

Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

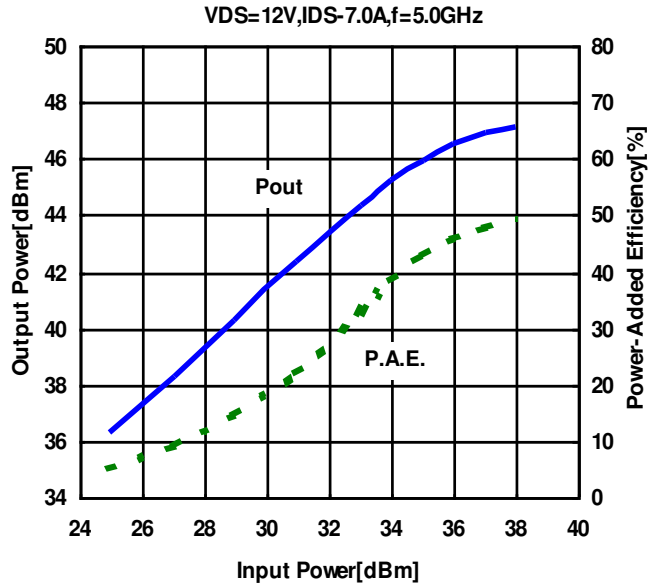
RoHS Compliance

Yes

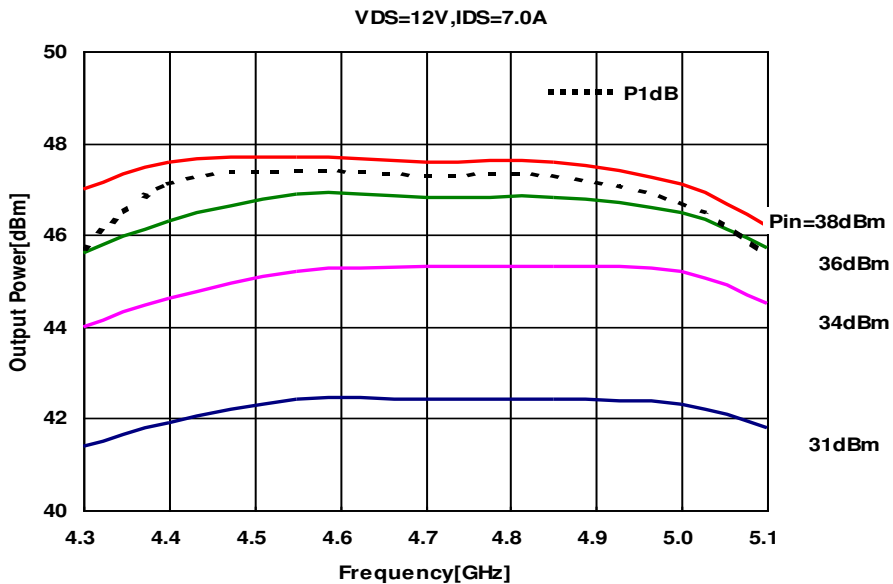
POWER DERATING CURVE



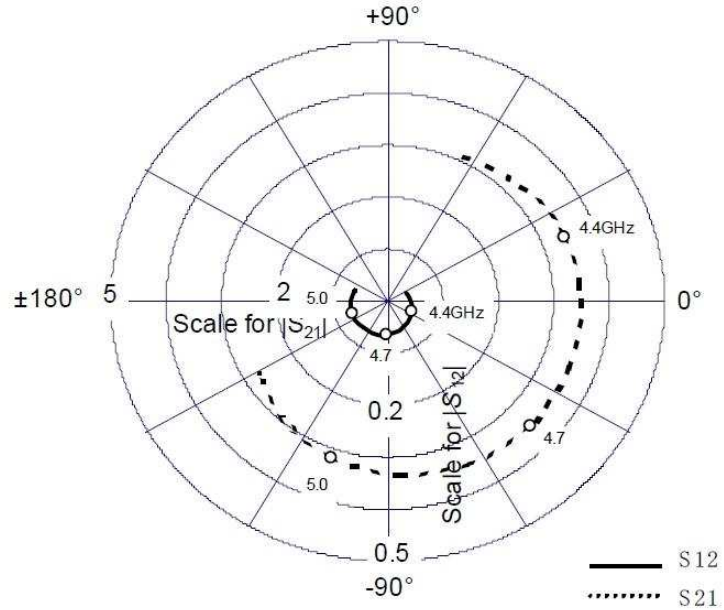
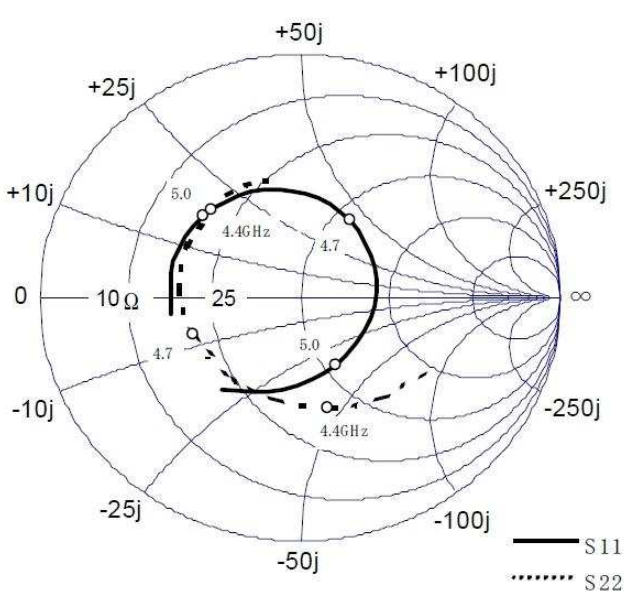
OUTPUT POWER , POWER ADDED EFFICIENCY vs. INPUT POWER



OUTPUT POWER vs. FREQUENCY



S-PARAMETERS

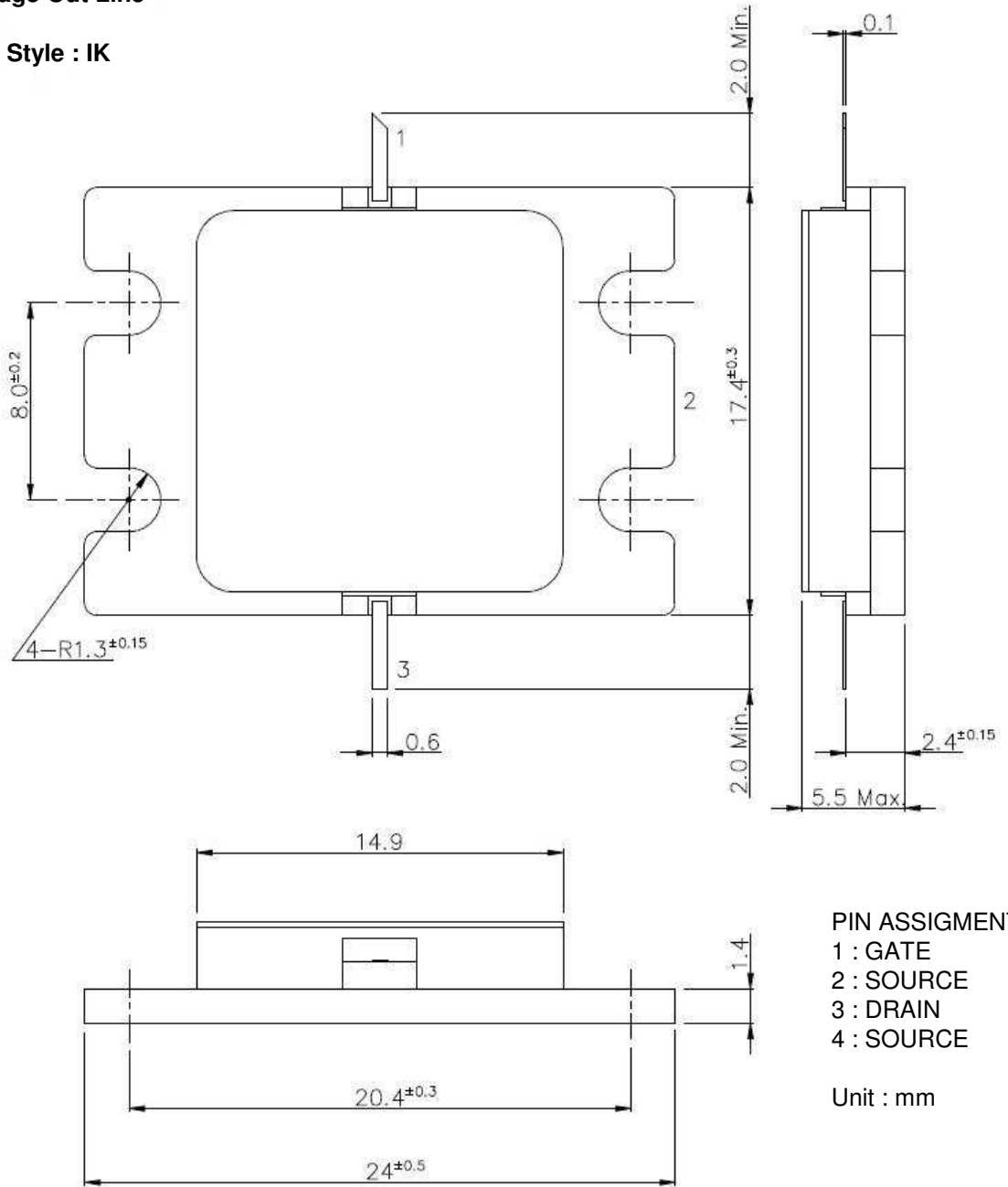


VDS=12V, IDS=7.0A

Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
4.20	0.51	-171.90	3.12	63.20	0.04	29.60	0.57	-33.00
4.30	0.51	162.50	3.28	42.50	0.05	3.50	0.51	-53.10
4.40	0.50	137.60	3.41	21.10	0.06	-23.30	0.46	-76.70
4.50	0.48	113.30	3.50	-0.10	0.06	-46.90	0.43	-103.40
4.60	0.43	87.60	3.53	-21.70	0.07	-69.30	0.42	-132.90
4.70	0.37	59.20	3.52	-43.10	0.08	-92.30	0.44	-159.90
4.80	0.31	24.40	3.48	-64.70	0.08	-115.30	0.47	176.30
4.90	0.28	-18.00	3.36	-86.20	0.08	-137.00	0.49	153.10
5.00	0.31	-63.60	3.19	-108.20	0.08	-158.10	0.49	133.10
5.10	0.39	-100.40	2.97	-129.20	0.08	-178.50	0.50	114.10
5.20	0.48	-128.30	2.71	-149.40	0.08	162.30	0.50	97.90

■ Package Out Line

Case Style : IK





FLM4450-45F

C-Band Internally Matched FET

For further information please contact:

<http://global-sei.com/Electro-optic/about/office.html>

CAUTION

This product contains **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- Do not put these products 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.