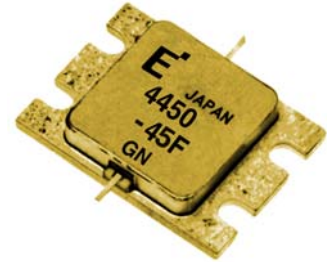


FLM4450-45F

C-Band Internally Matched FET

FEATURES

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

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	15	V
Gate-Source Voltage	V _{GS}	-5	V
Total Power Dissipation	PT	115.4	W
Storage Temperature	T _{stg}	-65 to +175	°C
Channel Temperature	T _{ch}	175	°C

RECOMMENDED OPERATING CONDITION (Case Temperature Tc=25°C)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V _{DS}		≤12	V
Forward Gate Current	I _{GF}	R _G =13 Ω	≤107.2	mA
Reverse Gate Current	I _{GR}	R _G =13 Ω	≥-23.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°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	g _m	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 μ A	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =12V	46	46.5	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}	f=4.4 - 5.0 GHz I _{DS} =7.0A (Typ.) Z _S =Z _L =50 Ω	9.0	10.0	-	dB
Drain Current	I _{DSR}		-	8.0	10.0	A
Power-Added Efficiency	η_{add}		-	41	-	%
Gain Flatness	Δ G		-	-	1.2	dB
Thermal Resistance	R _{th}	Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	Δ T _{ch}	12V X I _{DSR} X R _{th}	-	-	100	°C

CASE STYLE: IK

G.C.P.: Gain Compression Point

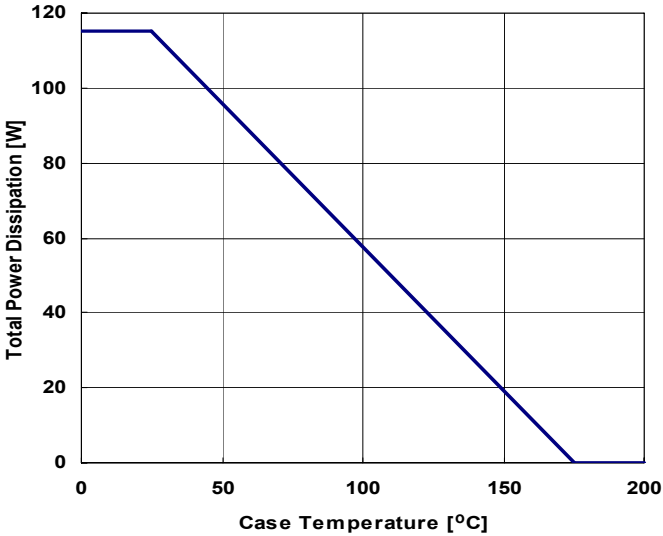
ESD	Class III	2000V ~
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Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5k Ω)

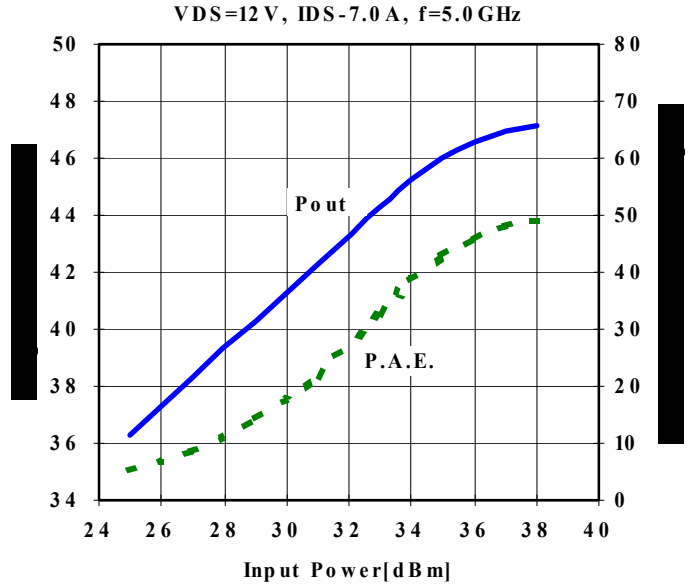
FLM4450-45F

C-Band Internally Matched FET

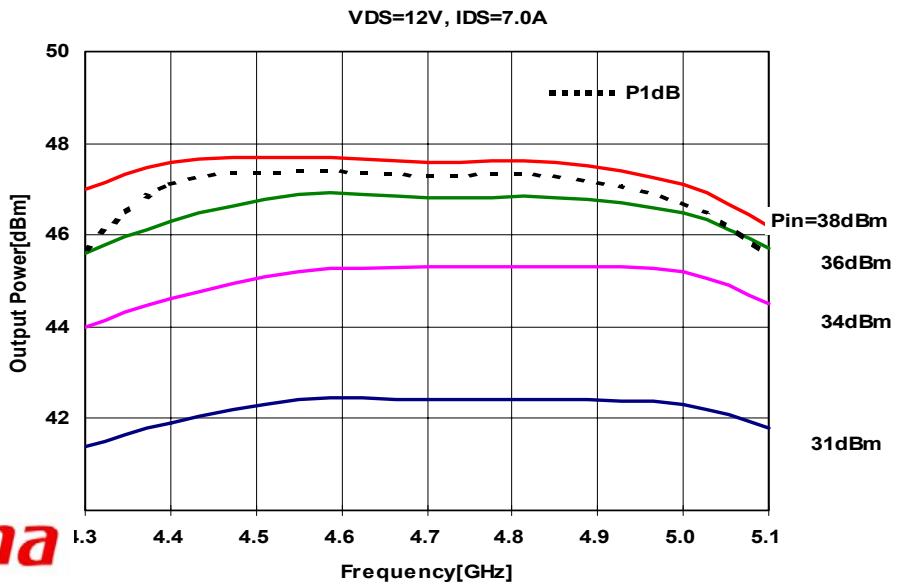
POWER DERATING CURVE



OUTPUT POWER , POWER ADDED EFFICIENCY vs. INPUT POWER



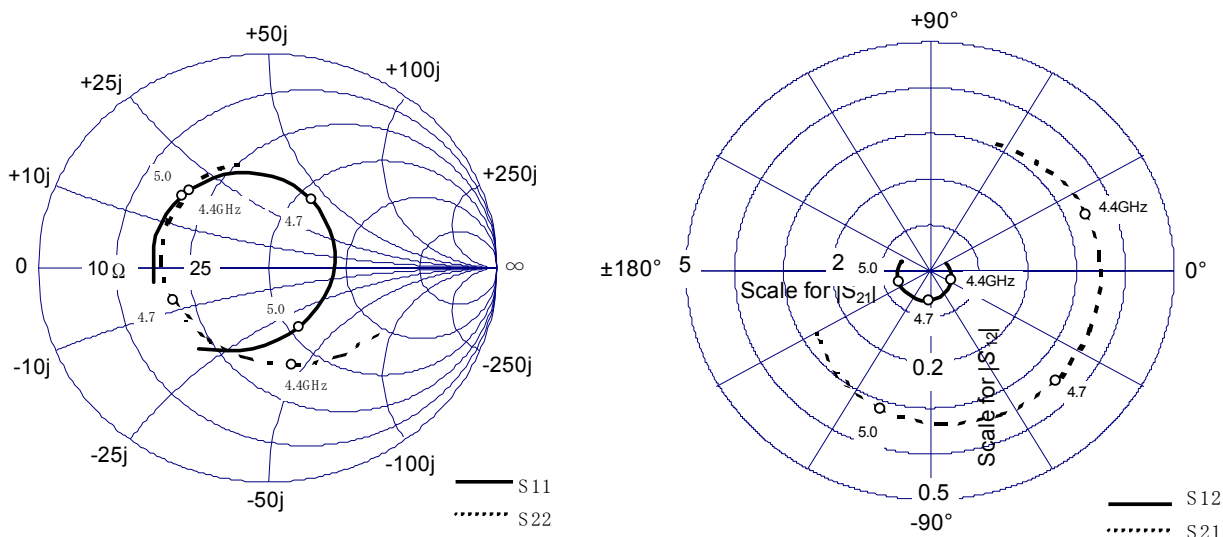
OUTPUT POWER vs. FREQUENCY



FLM4450-45F

C-Band Internally Matched FET

■ S-PARAMETER



VDS=12V, IDS=7.0A

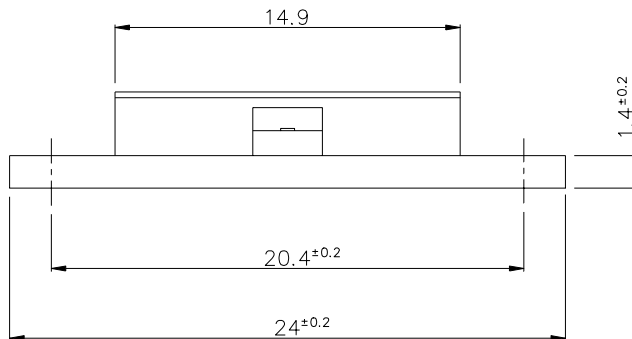
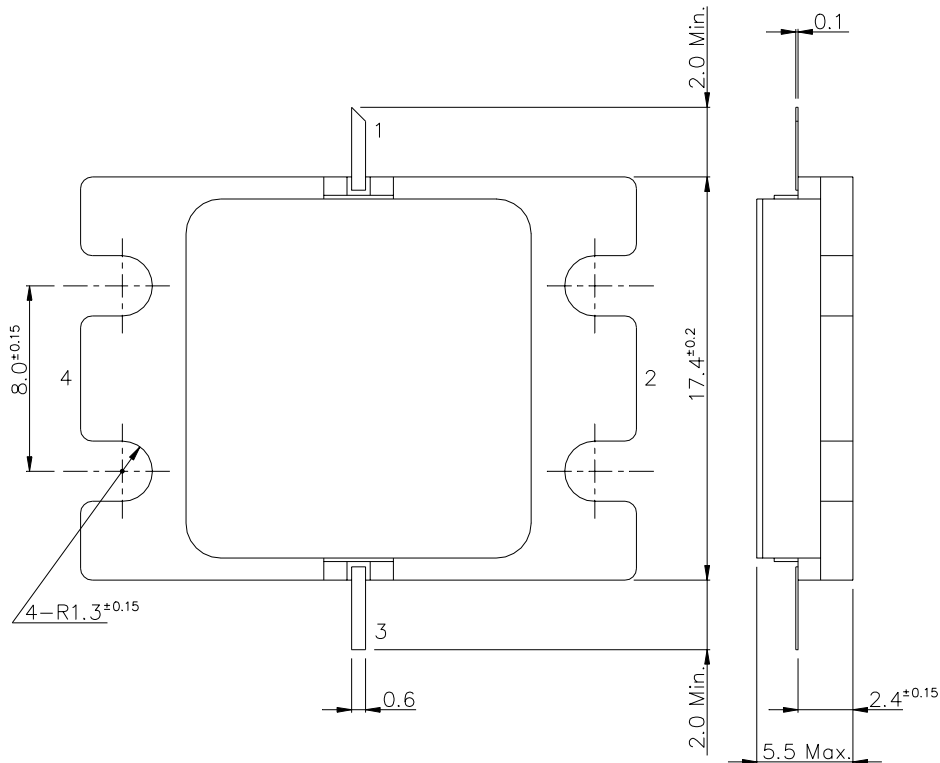
Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
4.20	0.51	-171.90	3.12	63.20	0.04	29.60	0.57	-33.00
4.30	0.51	162.50	3.28	42.50	0.05	3.50	0.51	-53.10
4.40	0.50	137.60	3.41	21.10	0.06	-23.30	0.46	-76.70
4.50	0.48	113.30	3.50	-0.10	0.06	-46.90	0.43	-103.40
4.60	0.43	87.60	3.53	-21.70	0.07	-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

FLM4450-45F

C-Band Internally Matched FET

■ Package Out Line

Case Style : IK



PIN ASSIGNMENT

- 1 : GATE
- 2 : SOURCE
- 3 : DRAIN
- 4 : SOURCE

Unit : mm

FLM4450-45F

C-Band Internally Matched FET

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 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.

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