

FLM5964-45F

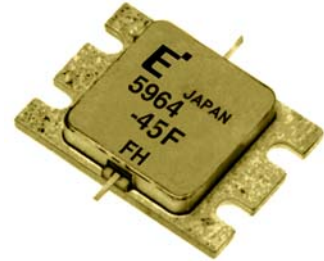
C-Band Internally Matched FET

FEATURES

- High Output Power: P1dB=47.0dBm(Typ.)
- High Gain: G1dB=8.5dB(Typ.)
- High PAE: η_{add} =39%(Typ.)
- Broad Band: 5.9~6.4GHz
- Impedance Matched Zin/Zout = 50 Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM5964-45F 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	P _T	115	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}		≤10	V
Forward Gate Current	I _{GF}	RG=10 Ω	≤108	mA
Reverse Gate Current	I _{GR}	RG=10 Ω	≥-23.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I _{DSS}	V _{DS} =5V, V _{GS} =0V	-	24	-	A
Transconductance	g _m	V _{DS} =5V, I _{DS} =8.0A	-	16	-	S
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =480mA	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-480uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V	46.0	47.0	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}	f=5.9 - 6.4 GHz	7.5	8.5	-	dB
Drain Current	I _{DSR}	I _{DS} (DC)=8.0A(typ.)	-	11	13	A
Power-added Efficiency	η_{add}	Z _s =Z _L =50 Ω	-	39	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM ₃	f=6.4 GHz Δf =10MHz, 2-tone Test P _{out} =35.5dBm(S.C.L.)	-37	-40	-	dBc
Thermal Resistance	R _{th}	Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I _{DS} (DC) X R _{th}	-	-	100	°C

CASE STYLE : IK

G.C.P.:Gain Compression Point

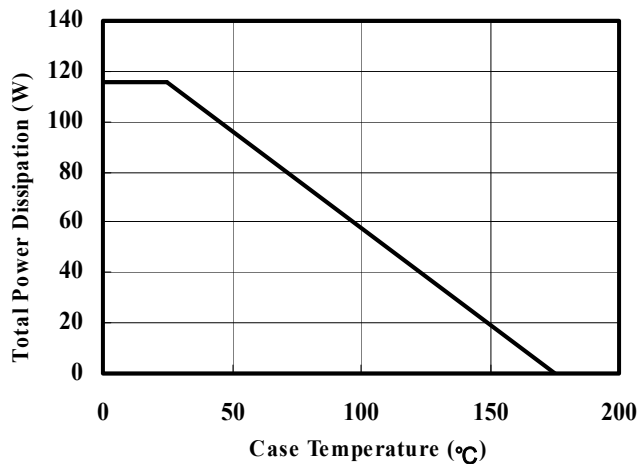
ESD	Class III	2000V ~
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Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5k Ω)

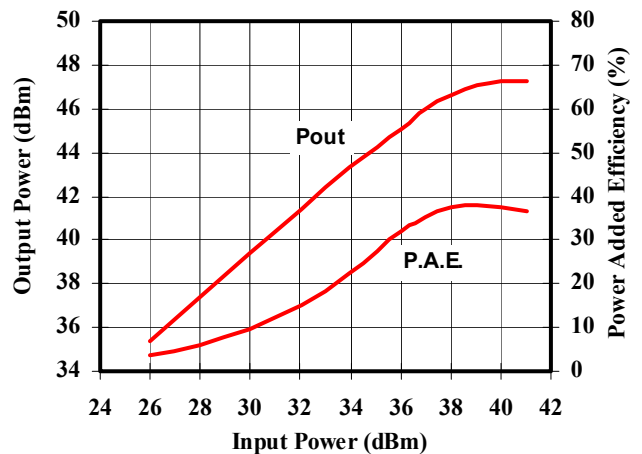
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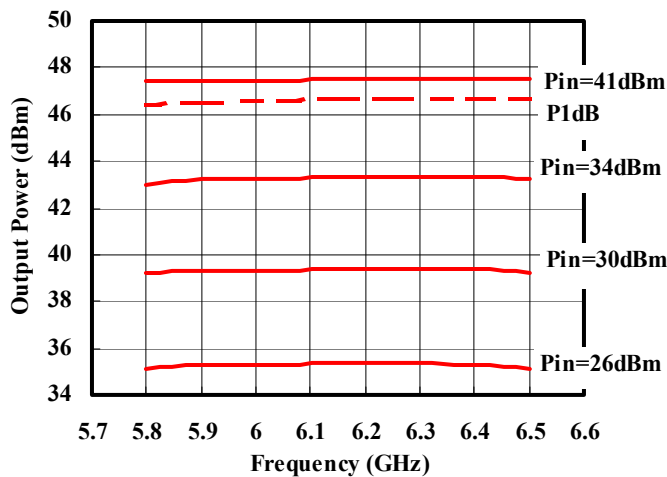
Power Derating Curve



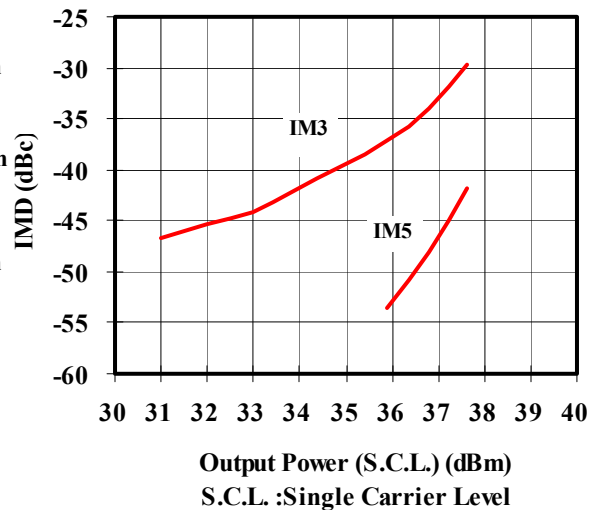
Output Power & P.A.E. vs. Input Power
VDS=10V, IDS(DC)=8A, f=6.15GHz



Output Power vs. Frequency
VDS=10V, IDS(DC)=8A



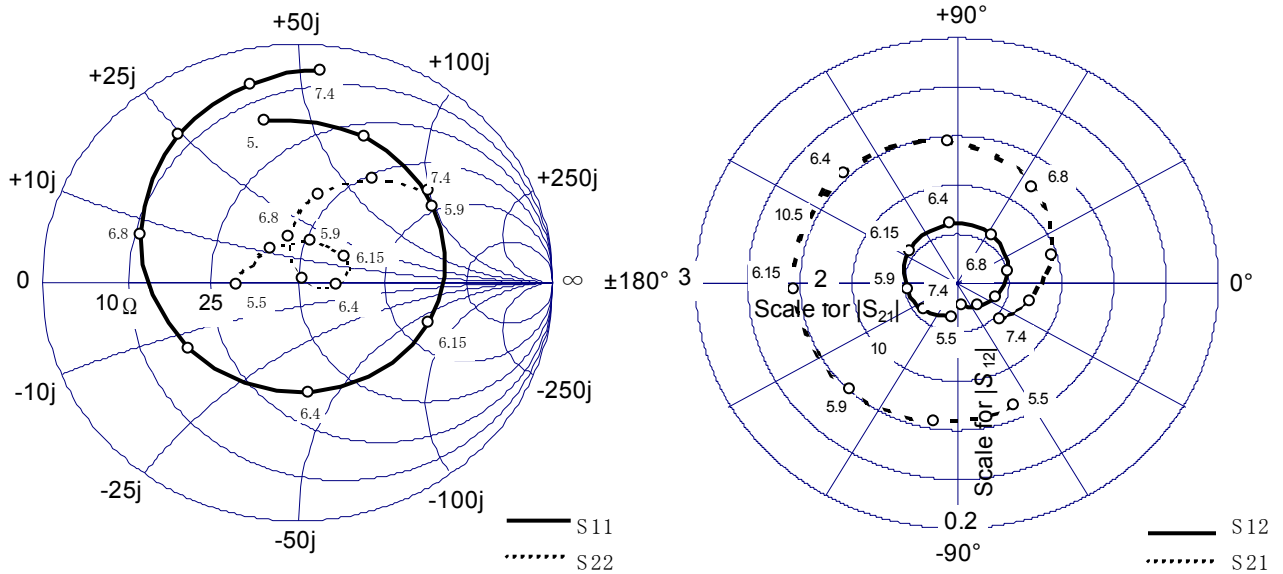
IMD vs. Output Power
VDS=10V, IDS(DC)=8A
f1=6.40GHz, f2=6.41GHz



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■ S-PARAMETER



VDS=10V, IDS(DC)=8.0A

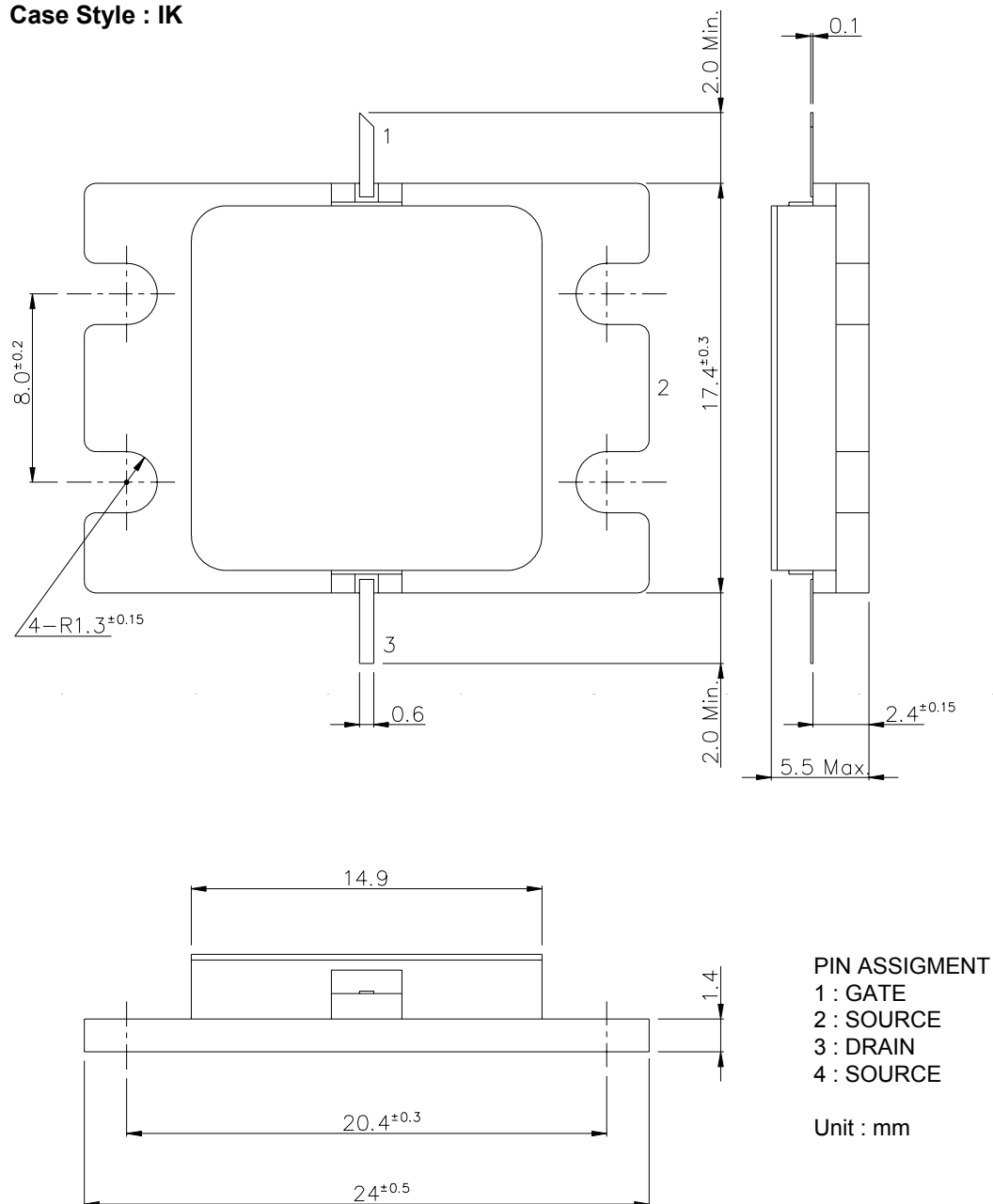
Freq. [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.50	0.69	100.73	2.71	-65.86	0.04	-98.76	0.24	-178.84
5.60	0.68	83.94	2.79	-82.12	0.05	-119.62	0.20	156.65
5.70	0.66	66.62	2.87	-98.96	0.05	-138.82	0.18	127.57
5.80	0.64	49.49	2.93	-116.10	0.05	-156.63	0.17	98.72
5.90	0.62	31.08	3.00	-133.45	0.06	-172.99	0.19	74.14
6.00	0.59	12.46	3.05	-150.81	0.06	168.51	0.20	53.42
6.10	0.56	-7.81	3.09	-168.95	0.07	151.81	0.21	36.86
6.20	0.52	-29.71	3.12	173.00	0.07	134.62	0.21	22.64
6.30	0.48	-55.12	3.13	153.96	0.07	116.09	0.19	9.90
6.40	0.46	-84.53	3.12	134.25	0.07	96.67	0.15	-2.96
6.50	0.47	-115.98	3.03	114.07	0.07	76.89	0.09	-11.43
6.60	0.51	-147.35	2.88	93.41	0.07	55.03	0.02	41.26
6.70	0.57	-175.07	2.67	73.16	0.07	34.26	0.10	106.30
6.80	0.64	161.88	2.43	53.61	0.06	14.80	0.20	99.38
6.90	0.71	142.58	2.16	35.09	0.05	-2.80	0.29	88.73
7.00	0.77	126.73	1.91	16.95	0.05	-19.52	0.38	77.36
7.10	0.82	114.00	1.67	1.25	0.04	-35.33	0.46	66.53
7.20	0.85	102.39	1.45	-14.52	0.04	-49.84	0.53	56.00
7.30	0.88	92.83	1.27	-29.03	0.03	-66.26	0.59	46.08
7.40	0.89	84.05	1.09	-42.51	0.03	-77.65	0.64	37.22

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■ Package Out Line

Case Style : IK



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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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