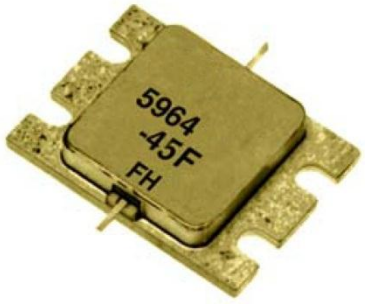
FLM5964-45F

C-Band Internally Matched FET



FEATURES

- High Output Power: P_{1dB}=47.0dBm(Typ.)
- High Gain: G_{1dB}=8.5dB(Typ.)
- High PAE: η_{add}=39%(Typ.)
- Broad Band: 5.9 to 6.4GHz
- Impedance Matched Zin/Zout = 50ohm
- 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 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	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}		<= 10	V
Forward Gate Current	I_{GF}	R_G=10ohm	<= 108	mA
Reverse Gate Current	I_{GR}	R_G=10ohm	>=-23.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25deg.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}=960mA	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	V_{GSO}	I_{GS}=-960uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS}=10V f= 5.9 to 6.4 GHz I_{DS}(DC)=8.0A (typ.) Z_S=Z_L=50 ohm	46.0	47.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.5	8.5	-	dB
Drain Current	I_{dsr}		-	11	13	A
Power-Added Efficiency	η_{add}		-	39	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM_3	f=6.4 GHz Δf=10MHz, 2-tone Test Pout=35.5dBm(S.C.L.)	-37	-40	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	1.1	1.3	deg.C/W
Channel Temperature Rise	ΔT_{ch}	10V x I_{DS}(DC) x R_{th}	-	-	100	deg.C

G.C.P.: Gain Compression Point

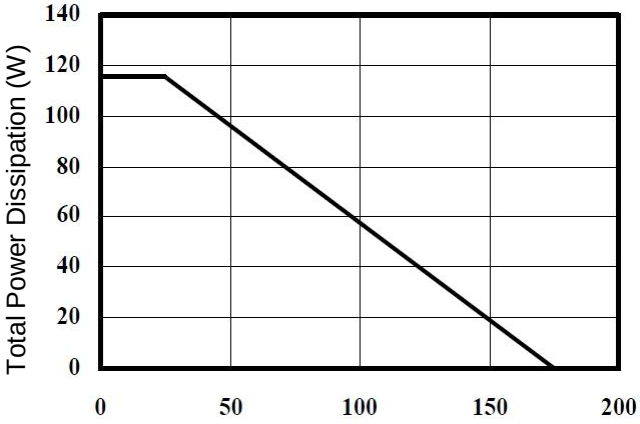
CASE STYLE	IK

ESD	Class 3A	4000V to 8000V

Note : Based on JEDEC JESD22-A114 (C=100pF, R=1.5kohm)

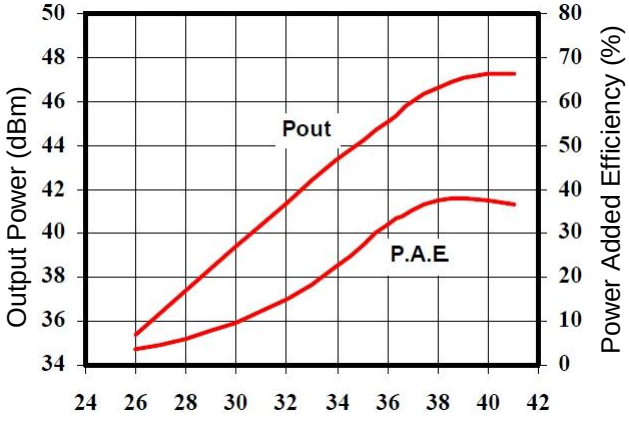
RoHS Compliance	Yes

Power Derating Curve



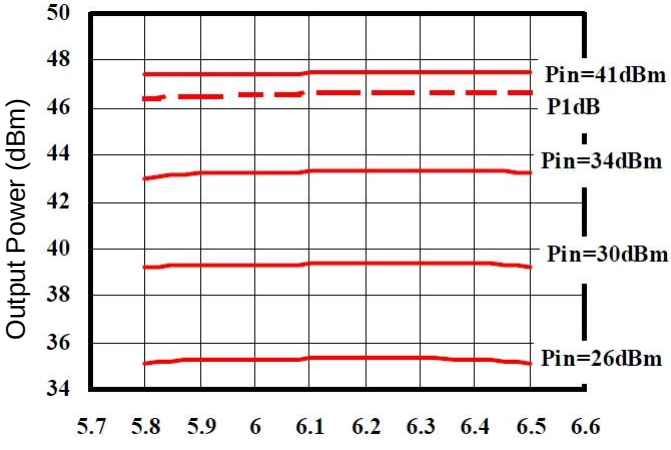
Output Power & P.A.E. vs. Input Power

VDS=10V, IDS(DC), f=6.15GHz



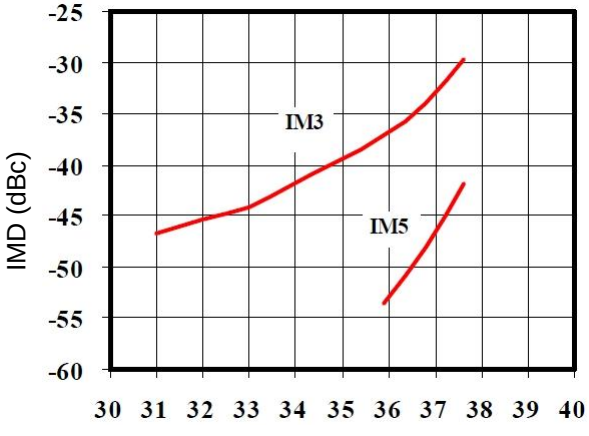
Output Power vs. Frequency

VDS=10V, IDS(DC)=8A

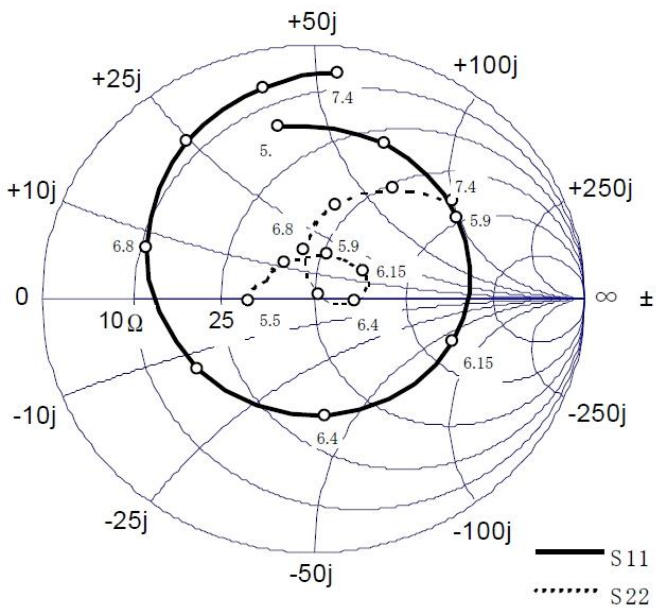


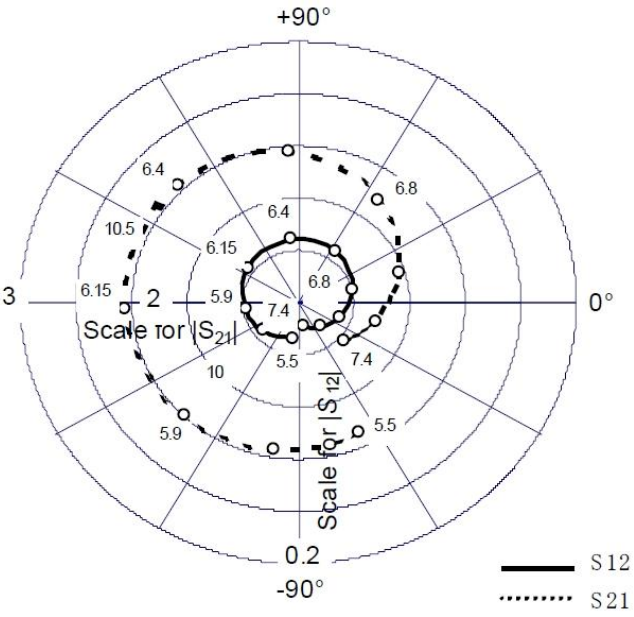
IMD vs. Output Power

VDS=10V, IDS(DC)=8A
f1=6.40GHz, f2=6.41GHz



■ S-PARAMETER

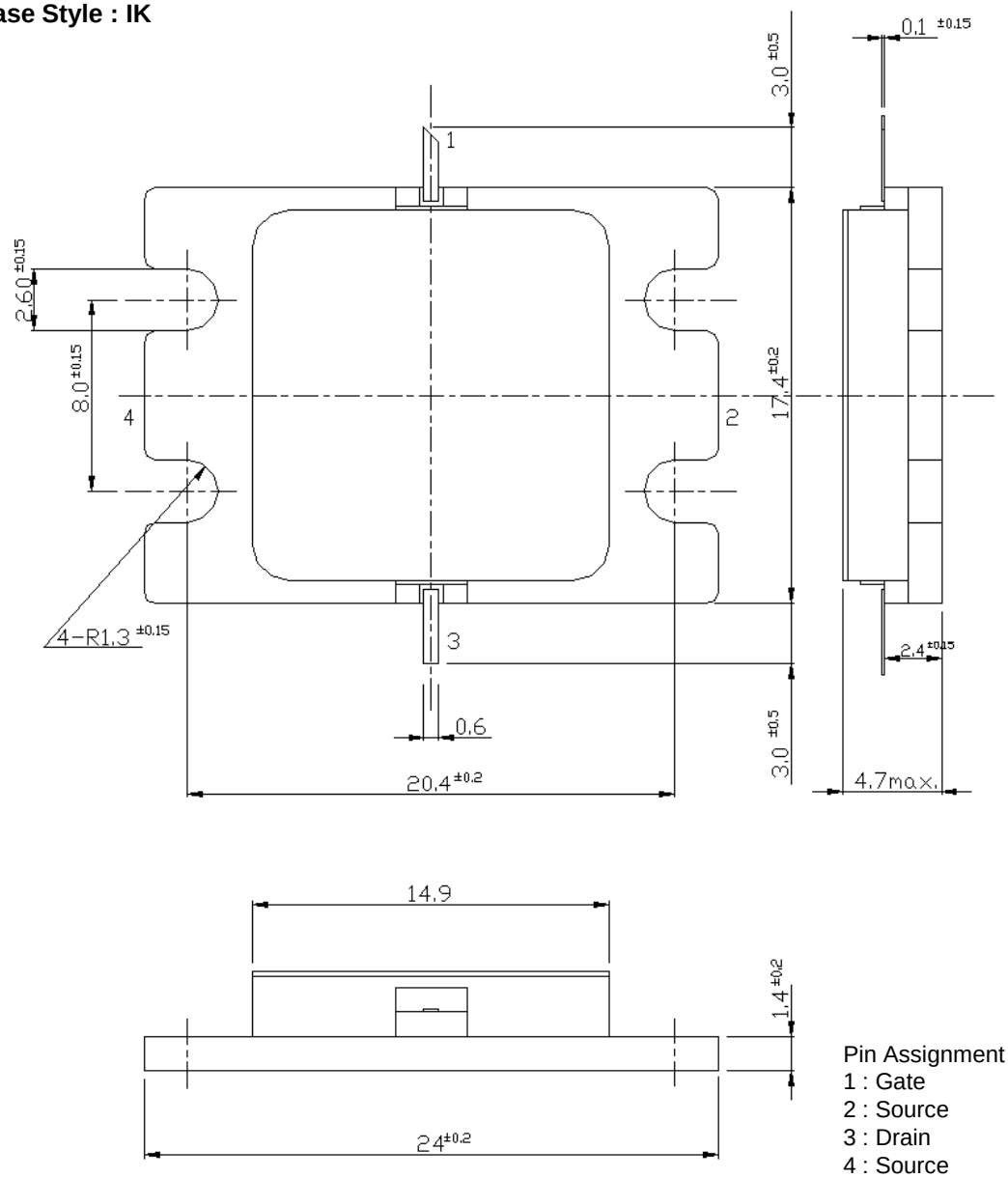




VDS=10V, IDS(DC)=8.0A

Freq.	S11		S21		S12		S22	
[GHz]	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

■ **Package Outline**
Case Style : IK



Pin Assignment
1 : Gate
2 : Source
3 : Drain
4 : Source

Unit : mm

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.