

FLM0910-25F

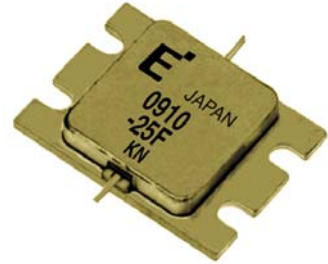
X-Band Internally Matched FET

FEATURES

- High Output Power: P1dB=44dBm(Typ.)
- High Gain: G1dB=7.0dB(Typ.)
- High PAE: η_{add} =30%(Typ.)
- Broad Band: 9.5~10.5GHz
- Impedance Matched Zin/Zout = 50 Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM0910-25F 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	93.7	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}	R _G =25 Ω	≤ 64	mA
Reverse Gate Current	I _{GR}	R _G =25 Ω	≥ -11.2	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	-	10.8	16.2	A
Transconductance	g _m	V _{DS} =5V, I _{DS} =6.92A	-	10000	-	mS
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =500mA	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-500uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V f=9.5 - 10.5 GHz I _{DS} =0.6I _{DSS} Z _S =Z _L =50 Ω	43	44	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}		6.0	7.0	-	dB
Drain Current	I _{DSr}		-	6.5	7.2	A
Power-added Efficiency	η_{add}		-	30	-	%
Gain Flatness	ΔG		-	-	±0.6	dB
Thermal Resistance	R _{th}	Channel to Case	-	1.4	1.6	°C/W
Channel Temperature Rise	ΔT_{ch}	10V X I _{DSr} X R _{th}	-	-	100	°C

CASE STYLE: IK

G.C.P.: Gain Compression Point

ESD	Class III	2000V ~
-----	-----------	---------

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

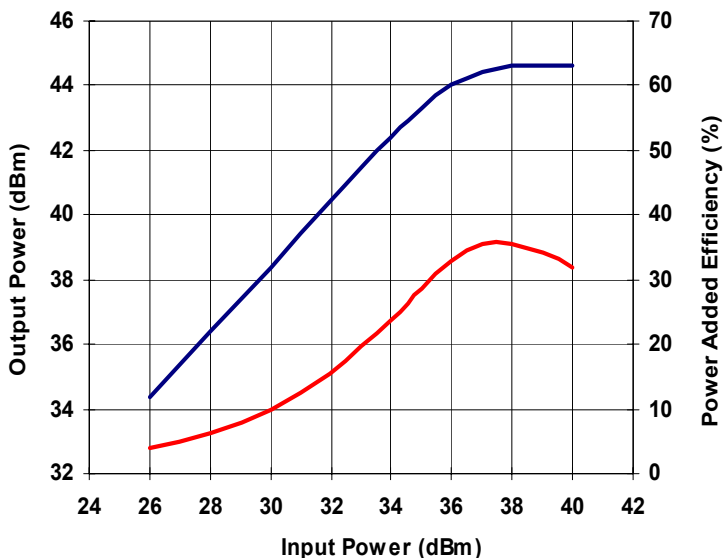
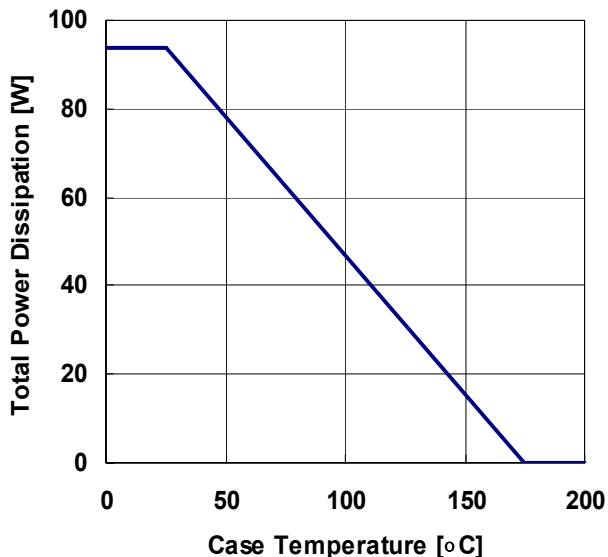
FLM0910-25F

X-Band Internally Matched FET

OUTPUT POWER & POWER ADDED EFFICIENCY vs. INPUT POWER

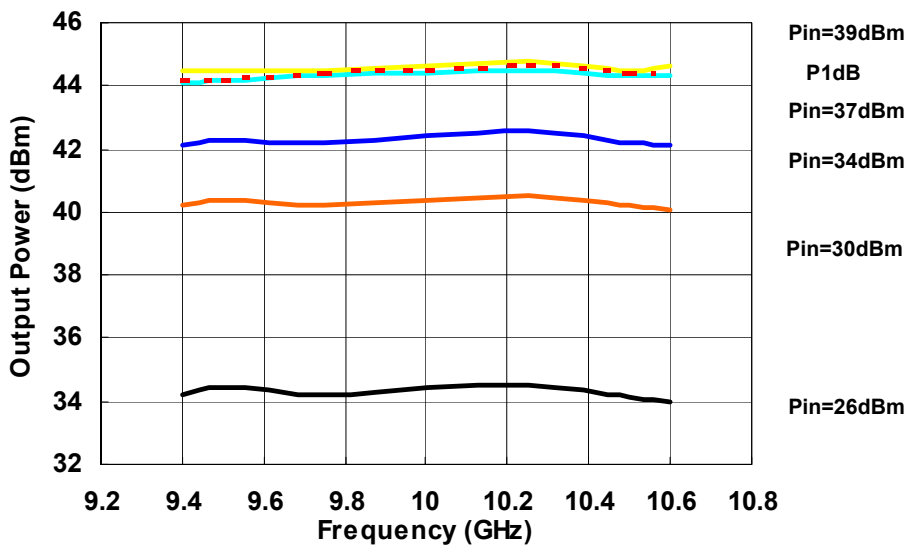
VDS=10V, IDS(DC)=0.60IDS, f=10.0GHz

POWER DERATING CURVE



OUTPUT POWER vs. FREQUENCY

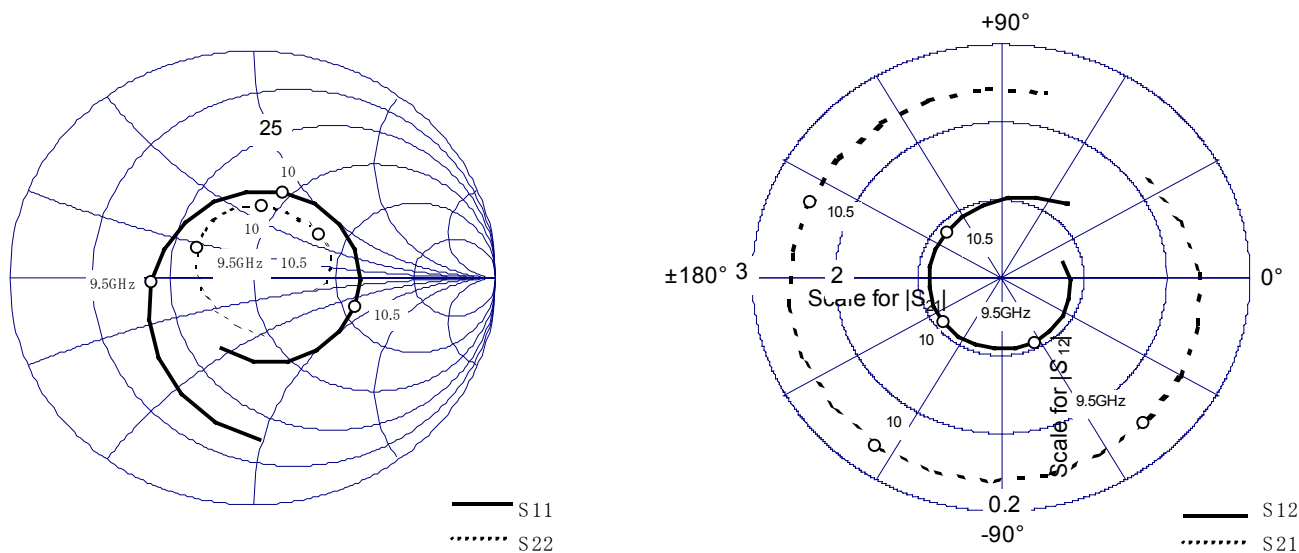
VDS=10V, IDS(DC)=0.60IDS



FLM0910-25F

X-Band Internally Matched FET

■ S-PARAMETER



VDS=10V , IDS=0.6Idss

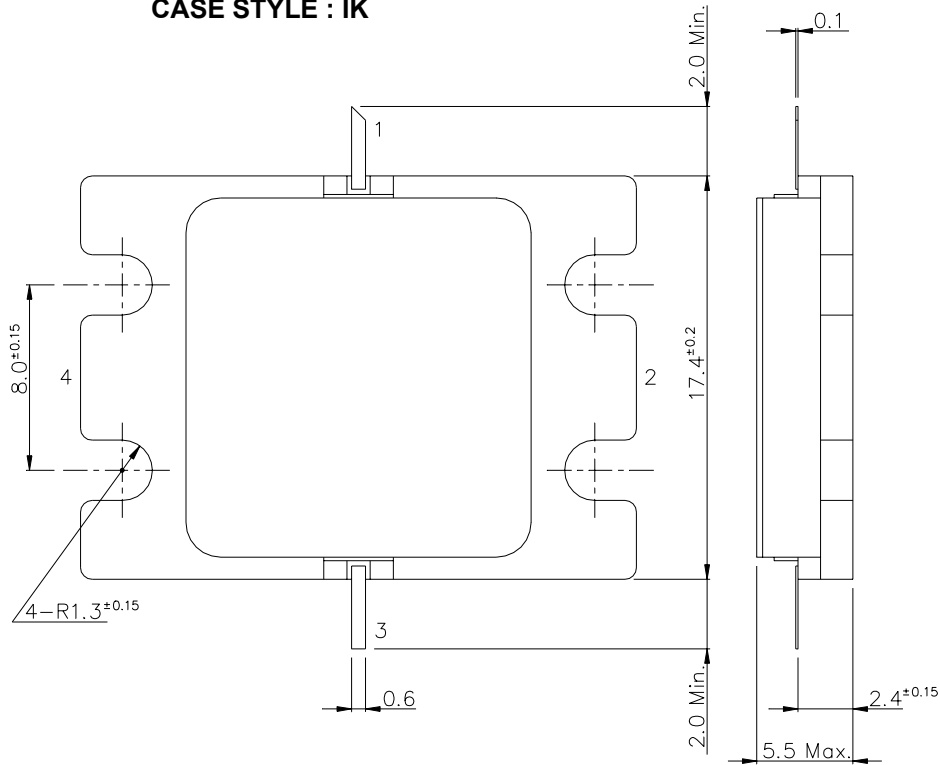
Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
9	0.71	-88.02	2.15	35.09	0.05	15.25	0.26	-77.71
9.1	0.65	-103.53	2.29	18.28	0.06	-1.55	0.22	-107.05
9.2	0.59	-120.18	2.40	1.32	0.06	-17.77	0.21	-138.65
9.3	0.53	-138.00	2.47	-15.34	0.06	-34.01	0.22	-167.56
9.4	0.47	-156.97	2.51	-31.59	0.06	-49.64	0.24	168.82
9.5	0.42	-177.22	2.53	-47.33	0.06	-64.58	0.26	149.54
9.6	0.39	161.48	2.56	-62.74	0.06	-79.62	0.29	133.93
9.7	0.37	138.88	2.59	-78.13	0.06	-94.61	0.30	120.00
9.8	0.37	116.07	2.62	-93.65	0.06	-109.43	0.31	107.27
9.9	0.38	93.62	2.63	-109.43	0.06	-124.61	0.32	95.51
10	0.40	72.47	2.64	-125.14	0.06	-140.33	0.32	84.23
10.1	0.41	52.59	2.62	-140.95	0.06	-155.72	0.32	73.93
10.2	0.43	33.84	2.60	-156.81	0.06	-172.24	0.32	63.61
10.3	0.44	16.24	2.57	-172.15	0.06	171.03	0.32	54.33
10.4	0.44	-0.56	2.53	172.43	0.06	154.60	0.33	44.93
10.5	0.44	-17.05	2.50	156.88	0.06	137.92	0.33	35.26
10.6	0.43	-33.47	2.47	141.58	0.06	120.72	0.33	25.29
10.7	0.42	-50.45	2.44	126.23	0.06	103.61	0.33	15.68
10.8	0.40	-68.63	2.43	110.45	0.07	85.80	0.32	6.13
10.9	0.37	-89.03	2.43	94.22	0.07	68.12	0.30	-2.58
11	0.34	-113.11	2.42	77.32	0.08	50.38	0.27	-9.87

FLM0910-25F

X-Band Internally Matched FET

■ Package Out Line

CASE STYLE : IK



Unit : mm

PIN ASSIGMENT

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

FLM0910-25F

X-Band Internally Matched FET

For further information please contact :

Eudyna Devices USA Inc.

2355 Zanker Rd.
San Jose, CA 95131-1138, U.S.A.
TEL: (408) 232-9500
FAX: (408) 428-9111
www.us.eudyna.com

Eudyna Devices Europe Ltd.

Network House
Norreys Drive
Maidenhead, Berkshire SL6 4FJ
United Kingdom
TEL: +44 (0) 1628 504800
FAX: +44 (0) 1628 504888

Eudyna Devices Asia Pte. Ltd.

Hong Kong Branch
Rm.1101,Ocean Centre, 5 Canton Road
Tsim Sha Tsui, Kowloon, Hong kong
TEL: +852-2377-0227
FAX: +852-2377-3921

Eudyna Devices Inc.

1000 Kamisukiahara, showa-cho
Nakakomagun, Yamanashi
409-3883, Japan
(Kokubo Industrial Park)
TEL +81-55-275-4411
FAX +81-55-275-9461

Sales Division

1, Kanai-cho, Sakae-ku
Yokohama,244-0845,Japan
TEL +81-45-853-8156
FAX +81-45-853-8170

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.

Eudyna Devices Inc. reserves the right to change products and specifications without notice. The information does not convey any license under rights of Eudyna Devices Inc. or others.

© 2004 Eudyna Devices USA Inc.
Printed in U.S.A.

