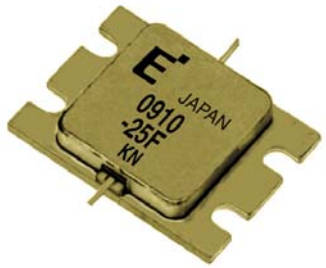
FLM0910-25F

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 = 50Ω
- 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 50Ω system.

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25℃)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	15	V
Gate-Source Voltage	V_{GS}	-5	V
Total Power Dissipation	P_T	93.7	W
Storage Temperature	T_{stg}	-65 to +175	℃
Channel Temperature	T_{ch}	175	℃

Recommended Operating Condition(Case Temperature Tc=25℃)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V_{DS}		≦10	V
Forward Gate Current	I_{GF}	R_G=25Ω	≦64	mA
Reverse Gate Current	I_{GR}	R_G=25Ω	≧-11.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25℃)

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}=0.6Idss Zs=ZL=50Ω	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	℃/W
Channel Temperature Rise	ΔT_{ch}	10V X Idsr X Rth	-	-	100	℃

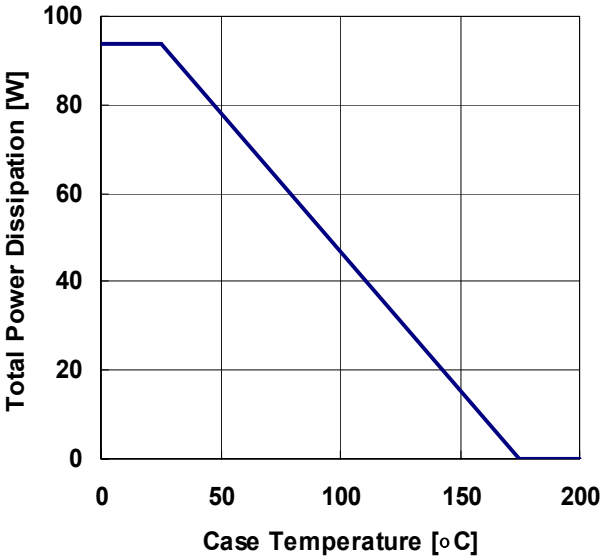
CASE STYLE: IK

G.C.P.:Gain Compression Point

ESD	Class Ⅲ	2000V ～

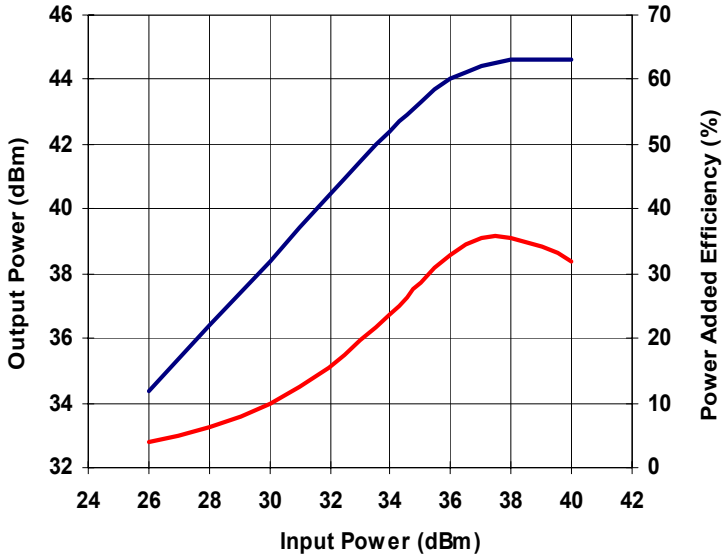
Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5kΩ)

POWER DERATING CURVE



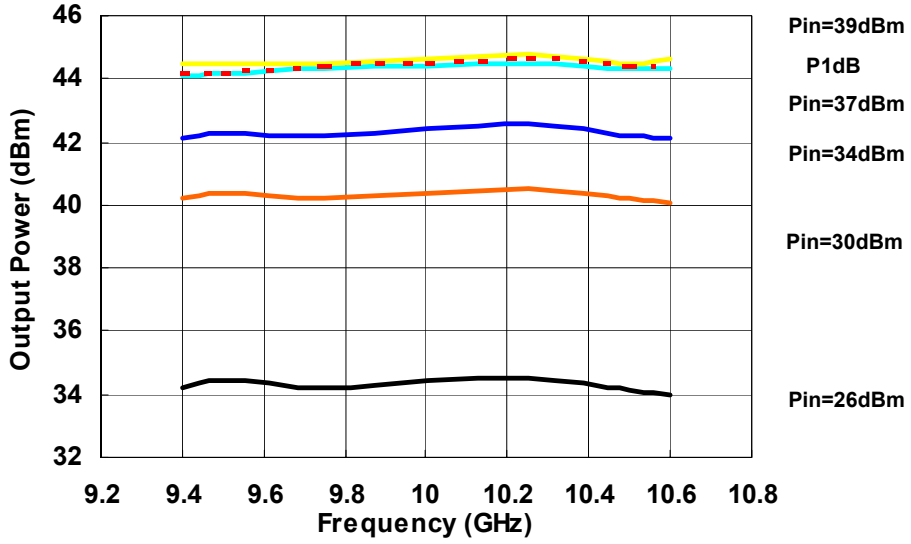
OUTPUT POWER & POWER ADDED EFFICIENCY vs. INPUT POWER

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

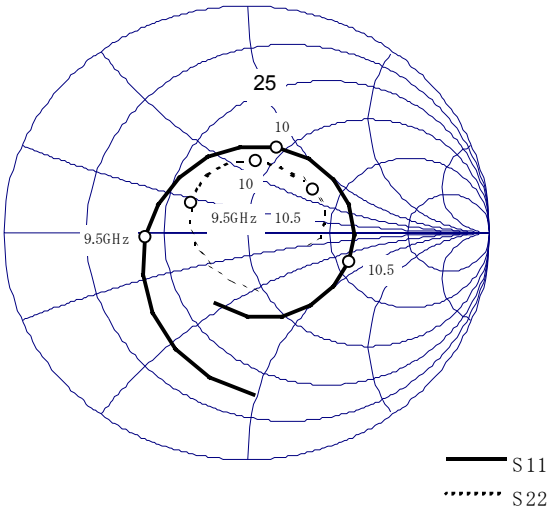


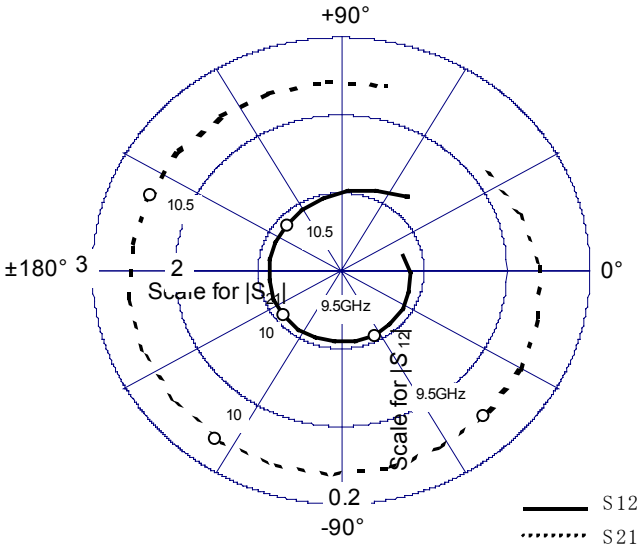
OUTPUT POWER vs. FREQUENCY

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



■ S-PARAMETER



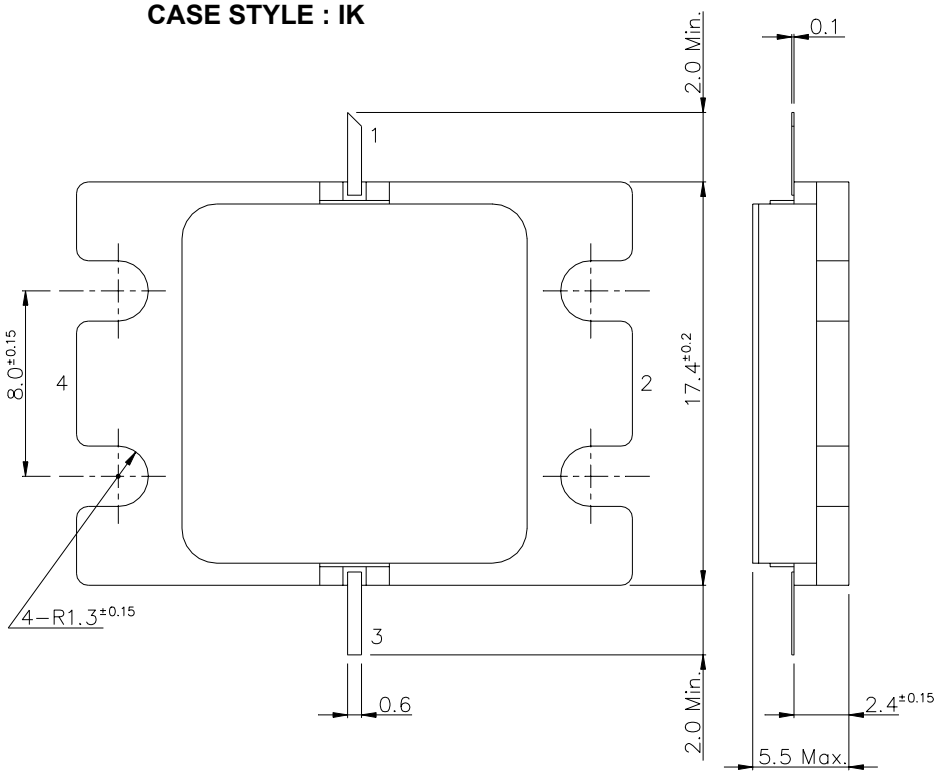


VDS=10V , IDS=0.6Idss

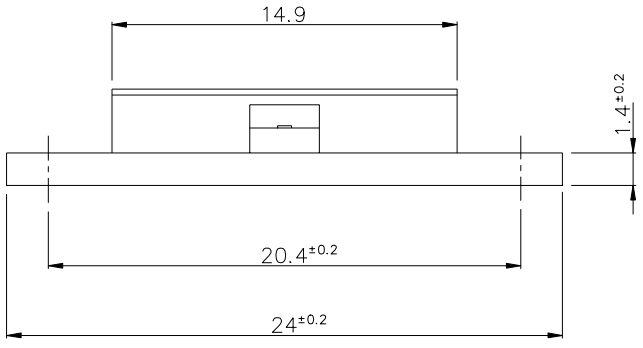
Freq	S11		S21		S12		S22	
[GHz]	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
9	0.71	-88.02	2.15	35.09	0.05	15.25	0.26	-77.71
9.1	0.65	-103.53	2.29	18.28	0.06	-1.55	0.22	-107.05
9.2	0.59	-120.18	2.40	1.32	0.06	-17.77	0.21	-138.65
9.3	0.53	-138.00	2.47	-15.34	0.06	-34.01	0.22	-167.56
9.4	0.47	-156.97	2.51	-31.59	0.06	-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

■ Package Out Line

CASE STYLE : IK



Unit : mm



PIN ASSIGMENT
1 : GATE
2 : SOURCE
3 : DRAIN
4 : SOURCE

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