

### FEATURES

- High Output Power:  $P_{1dB}=39.0dBm(Typ.)$
- High Gain:  $G_{1dB}=7.5dB(Typ.)$
- High Power Added Efficiency:  $PAE=29\%(Typ.)$
- Low  $IM_3 = -46dBc@Po=28.5dBm$
- Broad Band: 9.5 to 10.5GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50ohm$
- Hermetically Sealed Package

### DESCRIPTION

The FLM0910-8F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50ohm system.

Sumitomo's stringent Quality Assurance Program assures the highest Reliability and consistent performance.



### ABSOLUTE MAXIMUM RATINGS(Case Temperature $T_c=25deg.C$ )

Item	Symbol	Rating	Unit
Drain-Source Voltage ( $T_c=25deg.C$ )	$V_{DS}$	15	V
Gate-Source Voltage ( $T_c=25deg.C$ )	$V_{GS}$	-5	V
Total Power Dissipation	$P_T$	42.8	W
Storage Temperature	$T_{stg}$	-65 to +175	deg.C
Channel Temperature	$T_{ch}$	+175	deg.C

### RECOMMENDED OPERATING CONDITION(Case Temperature $T_c=25deg.C$ )

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	$V_{DS}$		<+10	V
Forward Gate Current	$I_{GF}$	$R_G=100 ohm$	<+32.0	mA
Reverse Gate Current	$I_{GR}$	$R_G=100 ohm$	>-4.4	mA
Channel Temperature	$T_{ch}$		+155	deg.C

### ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25deg.C$ )

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	3400	5200	mA
Trans conductance	$g_m$	$V_{DS}=5V, I_{DS}=2200mA$	-	3400	-	mS
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=170mA$	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-170uA$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS}=10V,$ $I_{DS}=0.65I_{DSS}(Typ.),$ $f=9.5 to 10.5GHz,$ $Z_s=Z_l=50ohm$	38.5	39.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		6.5	7.5	-	dB
Drain Current	$I_{DSR}$		-	2200	2600	mA
Power-added Efficiency	PAE		-	29	-	%
Gain Flatness	$\Delta G$		-	-	1.2	dB
3rd Order Intermodulation Distortion	$IM_3$	$f=10.5GHz$ $\Delta f=10MHz, 2-tone Test$ $P_{out}=28.5dBm (S.C.L.)$	-44	-46	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case ( $T_c=25deg.C, P_{diss}=22W$ )	-	3.0	3.5	deg.C/W
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

CASE STYLE: IB

S.C.L.: Single Carrier Level

G.C.P.: Gain Compression Point



---

---

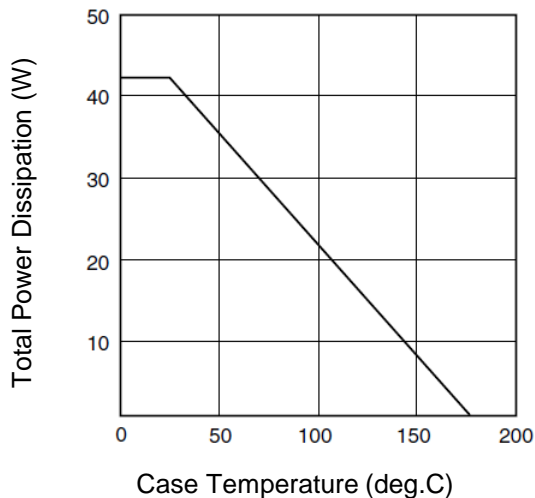
---

# FLM0910-8F

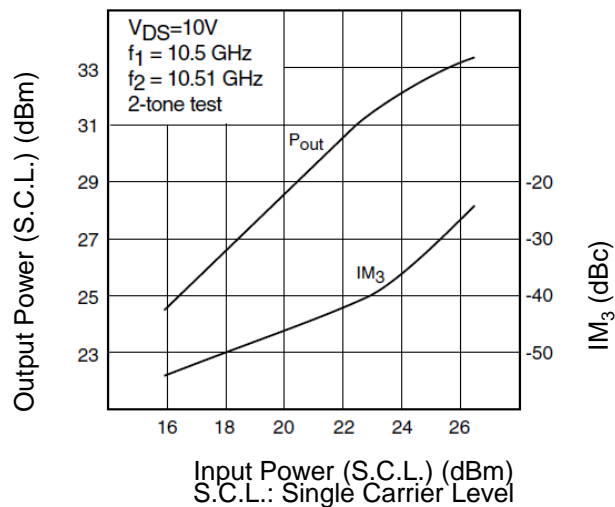
*X,Ku-Band Internally Matched FET*

<b>ESD</b>	<b>Class 3A</b>	<b>4000V to 8000V</b>
Note : Based on ANSI/ESDA/JEDEC JS-001-2014(C=100pF, R=1.5kohm)		
<b>RoHS COMPLIANCE</b>	Yes	

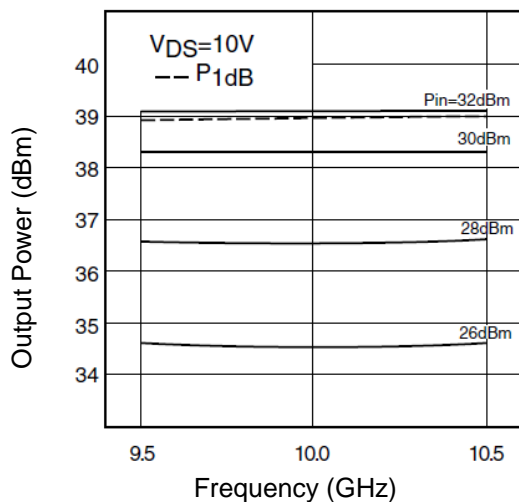
**POWER DERATING CURVE**



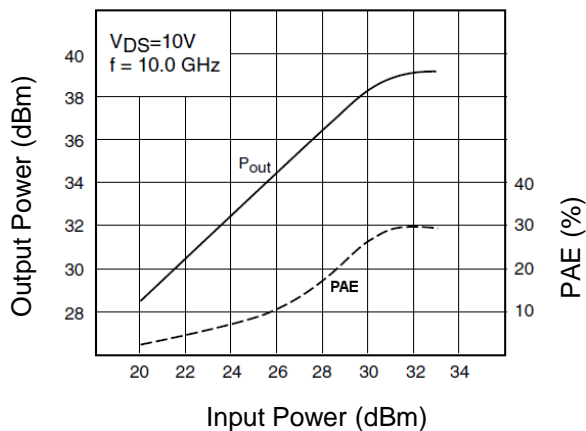
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

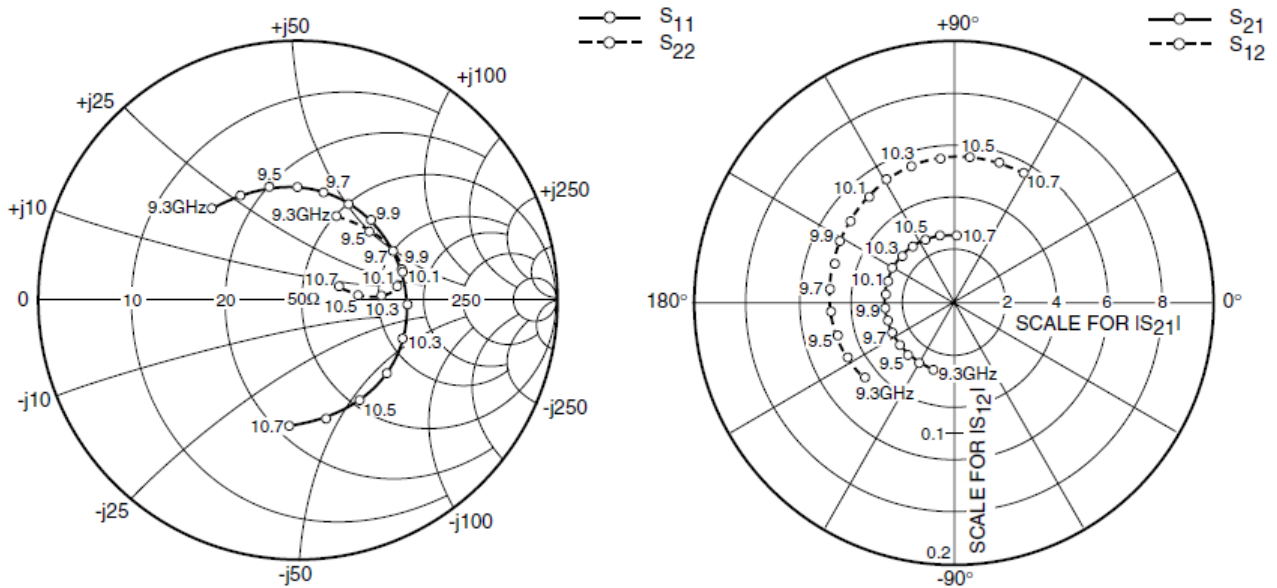


**OUTPUT POWER vs. FREQUENCY**



**OUTPUT POWER vs. INPUT POWER**



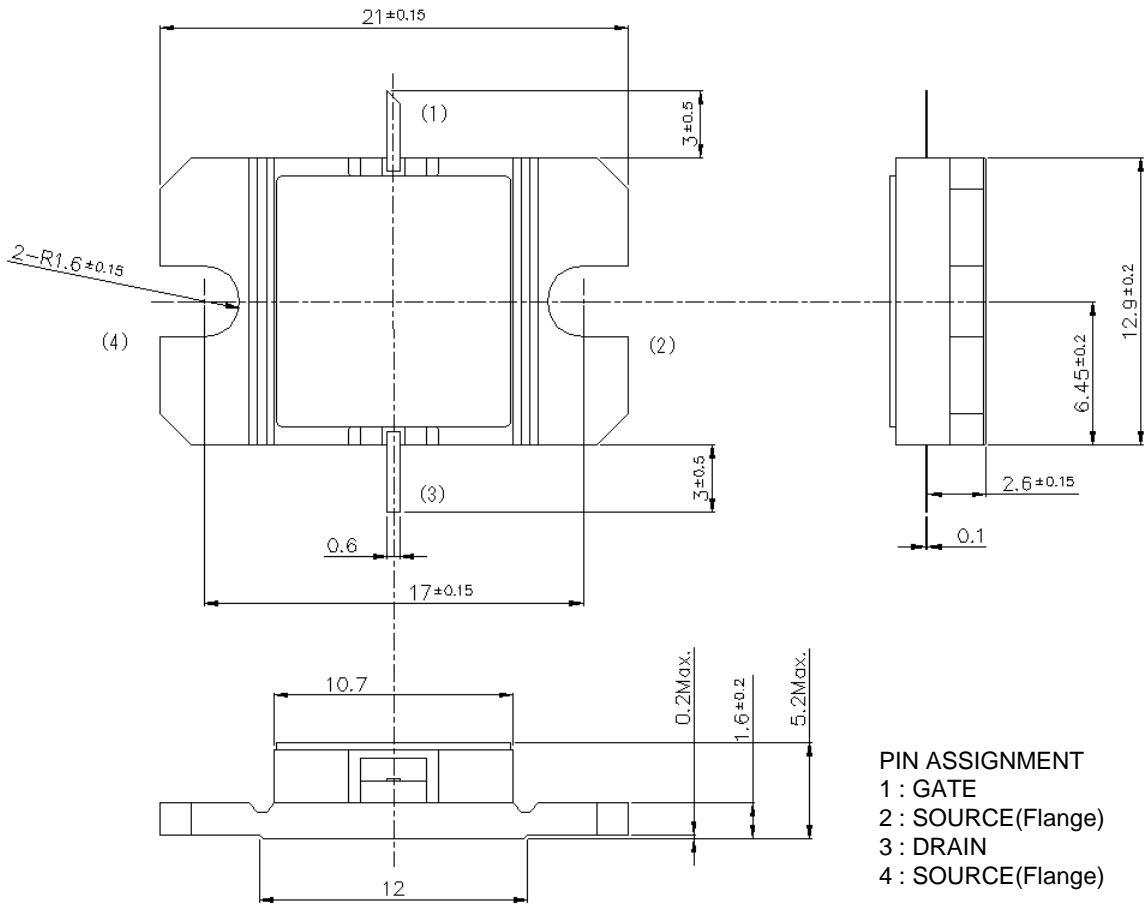


### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 2200mA$

REQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
9300	0.489	132.9	2.699	-108.2	0.090	-140.2	0.352	66.0
9400	0.464	118.8	2.686	-120.0	0.092	-152.4	0.364	54.7
9500	0.451	104.4	2.692	-131.6	0.093	-164.8	0.377	44.2
9600	0.438	90.5	2.657	-142.5	0.095	-175.1	0.397	35.3
9700	0.428	76.7	2.642	-153.9	0.096	174.3	0.412	28.2
9800	0.421	62.4	2.640	-164.8	0.095	162.4	0.421	21.9
9900	0.420	48.0	2.637	-175.5	0.100	151.7	0.417	17.2
10000	0.418	32.1	2.651	173.5	0.101	142.3	0.406	12.1
10100	0.420	15.7	2.668	162.3	0.104	130.3	0.385	7.9
10200	0.424	-2.0	2.689	150.9	0.107	119.4	0.358	5.2
10300	0.428	-20.4	2.703	138.8	0.109	108.0	0.320	2.6
10400	0.440	-39.3	2.703	126.7	0.108	96.1	0.276	2.6
10500	0.452	-58.2	2.691	114.2	0.112	84.3	0.231	3.3
10600	0.469	-76.6	2.656	101.7	0.112	72.3	0.194	8.4
10700	0.484	-94.2	2.600	89.0	0.111	61.1	0.166	17.4

### Case Style "IB" Metal-Ceramic Hermetic Package



PIN ASSIGNMENT  
 1 : GATE  
 2 : SOURCE(Flange)  
 3 : DRAIN  
 4 : SOURCE(Flange)

Tolerance :  $\pm 0.15$   
 Unit : mm

**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.