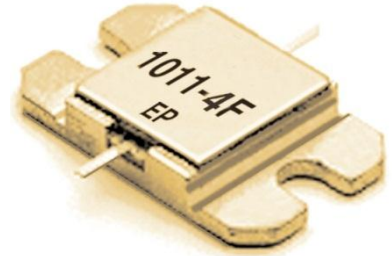


FEATURES

- High Output Power: $P_{1dB} = 36.0\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 7.0\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 29\%$ (Typ.)
- Low $IM_3 = -46\text{dBc}$ @ $P_o = 25.5\text{dBm}$
- Broad Band: 10.7 to 11.7GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed



DESCRIPTION

The FLM1011-4F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

SEDI's stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATING (Case Temperature $T_c=25\text{deg.C}$)

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

SEDI recommends the following conditions for the reliable operation of GaAs FETs:

1. The drain-source operating voltage (V_{DS}) should not exceed 10 volts.
2. The forward and reverse gate currents should not exceed 16.0 and -2.2 mA respectively with gate resistance of 100ohm.

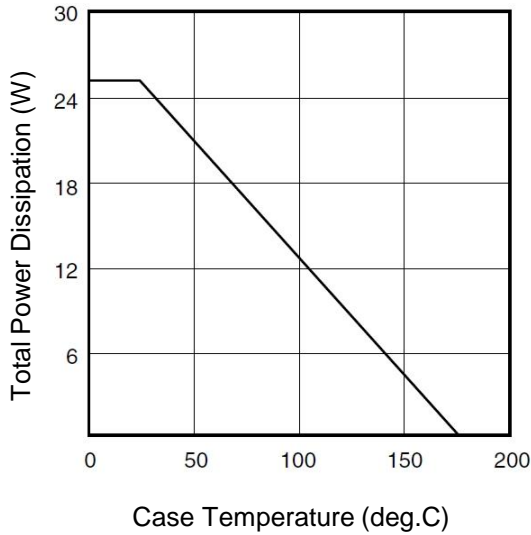
ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25\text{deg.C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	1700	2600	mA
Transconductance	g_m	$V_{DS}=5V, I_{DS}=1100\text{mA}$	-	1700	-	mS
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=85\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS}=-85\mu\text{A}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS}=10V,$ $I_{DS}=0.65 I_{DSS}$ (Typ.), $f=10.7$ to 11.7 GHz, $Z_S=Z_L=50\text{ohm}$	35.5	36.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		6.0	7.0	-	dB
Drain Current	I_{dsr}		-	1100	1300	mA
Power-added Efficiency	η_{add}		-	29	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM_3	$f = 11.7$ GHz, $\Delta f = 10$ MHz 2-Tone Test $P_{out} = 25.5\text{dBm}$ S.C.L.	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	5.0	6.0	deg.C/W
Channel Temperature Rise	ΔT_{ch}	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

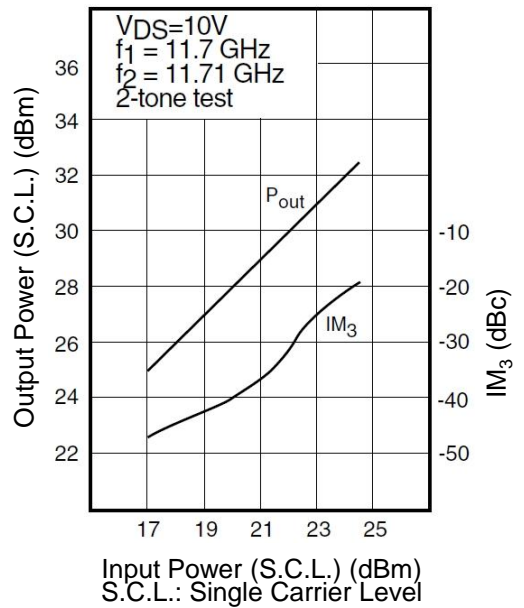
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

CASE STYLE	IA	
ESD	Class 3A	4000V to 8000V
Note : Based on JEDEC JESD22-A114 (C=100pF, R=1.5kohm)		
RoHS Compliance	Yes	

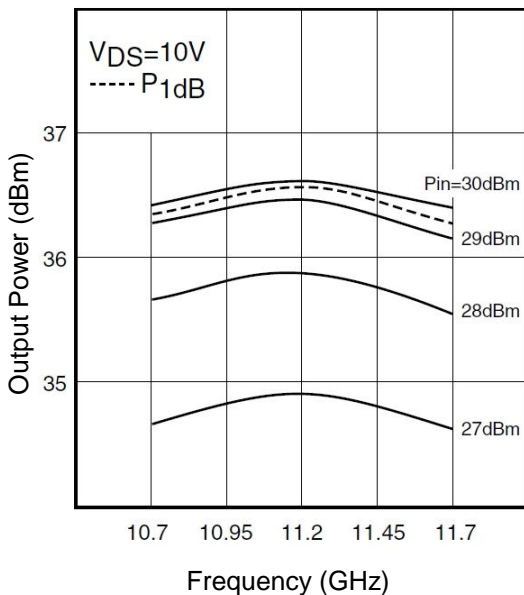
POWER DERATING CURVE



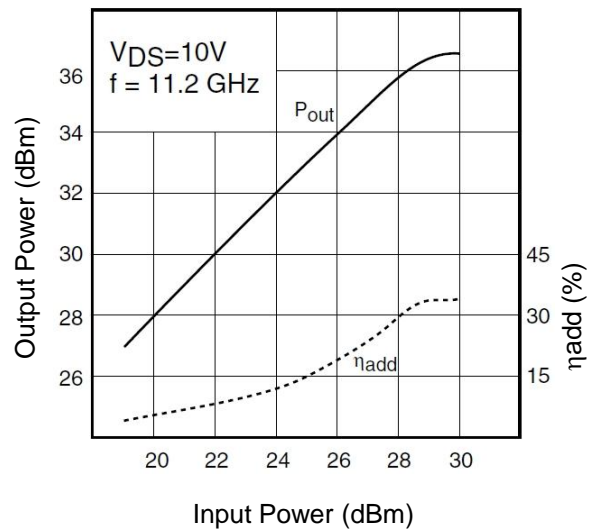
OUTPUT POWER & IM₃ vs. INPUT POWER

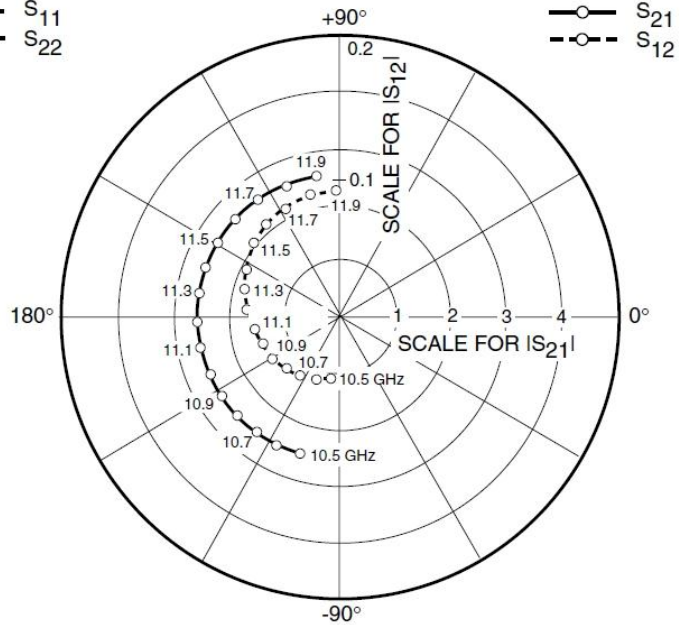
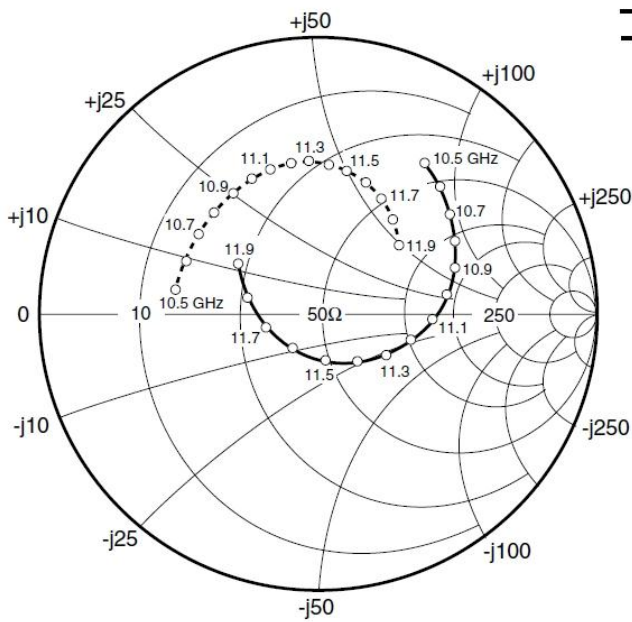


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER



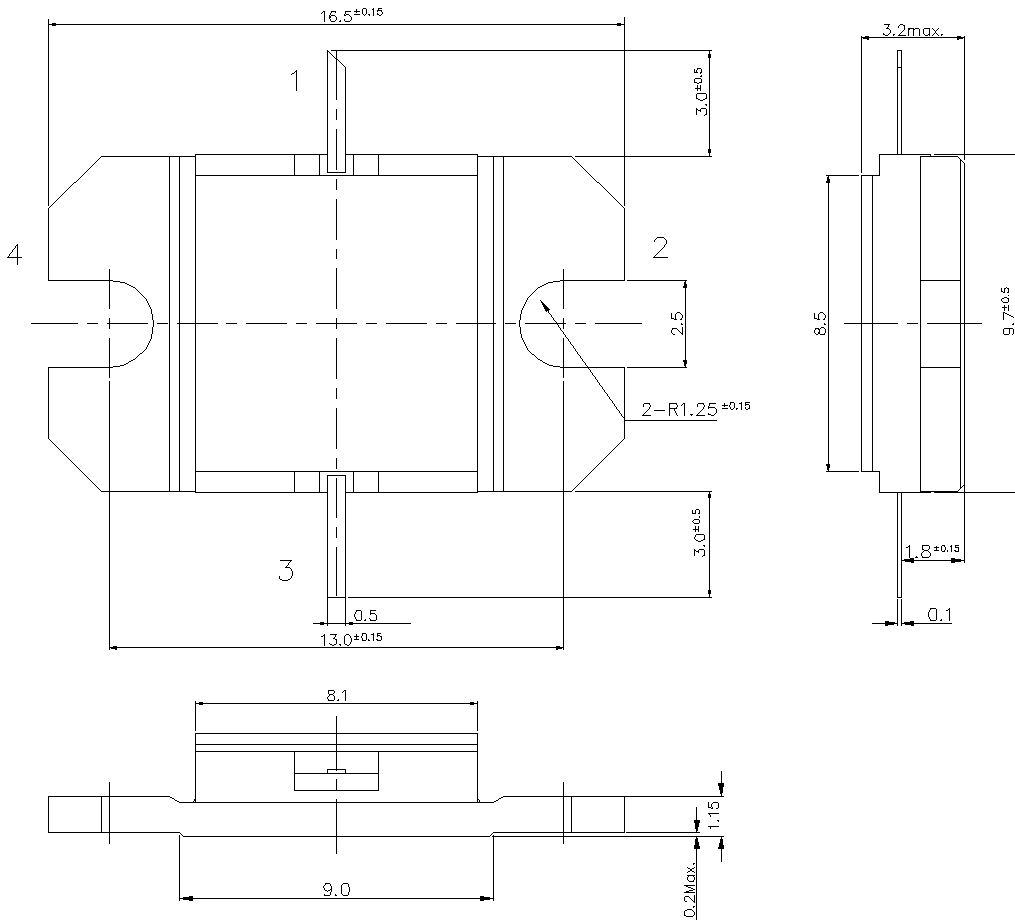


S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 1100mA$

FREQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10500	0.666	55.1	2.512	-107.2	0.044	-99.7	0.523	170.5
10600	0.637	46.8	2.515	-116.8	0.047	-111.7	0.517	158.3
10700	0.601	37.9	2.523	-126.9	0.051	-123.6	0.519	146.4
10800	0.561	28.5	2.532	-137.1	0.054	-136.9	0.523	135.4
10900	0.514	19.2	2.544	-147.1	0.059	-149.1	0.533	125.4
11000	0.463	8.9	2.553	-157.3	0.059	-161.3	0.544	116.2
11100	0.406	-2.4	2.562	-167.9	0.063	-172.7	0.548	108.1
11200	0.345	-15.5	2.570	-178.3	0.069	175.9	0.553	100.4
11300	0.281	-31.3	2.576	170.8	0.071	164.8	0.552	93.2
11400	0.217	-51.9	2.576	159.8	0.075	152.3	0.544	85.7
11500	0.167	-82.6	2.570	148.5	0.082	140.7	0.528	78.2
11600	0.154	-126.2	2.562	137.1	0.084	129.7	0.506	70.2
11700	0.195	-165.7	2.547	125.1	0.087	117.1	0.473	61.1
11800	0.265	166.8	2.526	112.7	0.090	104.3	0.431	51.2
11900	0.343	147.1	2.518	100.3	0.090	91.7	0.384	40.4

■ Package Outline
Case Style : IA



Pin Assignment

- 1 : Gate
- 2 : Source
- 3 : Drain
- 4 : Source

Unit : mm



FLM1011-4F

X, Ku-Band Internally Matched FET

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.