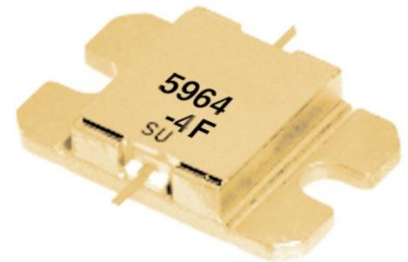


### FEATURES

- High Output Power:  $P_{1dB} = 36.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 10.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 37\%$  (Typ.)
- Low IM3 =  $-46\text{dBc}@P_o = 25.5\text{dBm}$
- Broad Band: 5.9 to 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



### DESCRIPTION

The FLM5964-4F 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 $T_c=25\text{deg.C}$ )

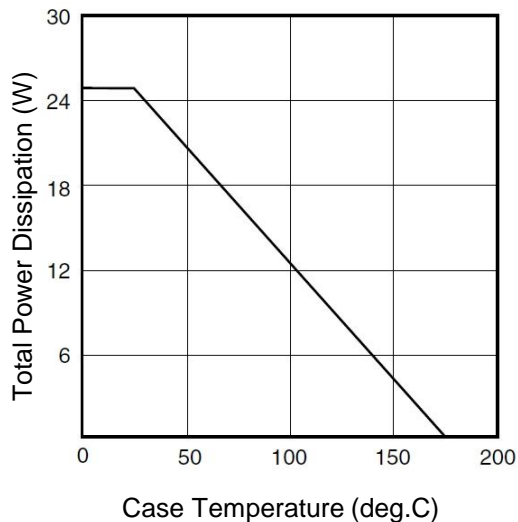
Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	1700	2600	mA
Transconductance	$g_m$	$V_{DS}=5V, I_{DS}=1100\text{mA}$	-	1700	-	mS
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=85\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-85\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS}=10V,$ $I_{DS}=0.65 I_{DSS}$ (Typ.), $f=5.9$ to $6.4$ GHz, $Z_S=Z_L=50\text{ohm}$	35.5	36.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		9.0	10.0	-	dB
Drain Current	$I_{dsr}$		-	1100	1300	mA
Power-added Efficiency	$\eta_{add}$		-	37	-	%
Gain Flatness	$\Delta G$		-	-	1.2	dB
3rd Order Intermodulation Distortion	$IM_3$	$f = 6.4$ 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	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

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

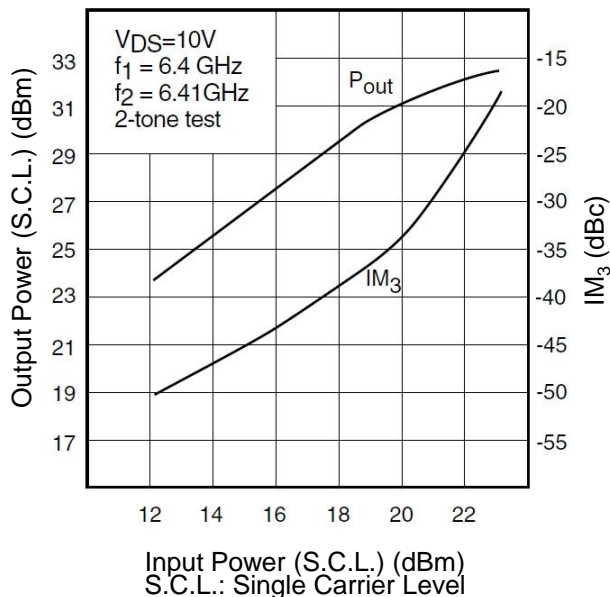
<b>CASE STYLE</b>	<b>IB</b>	
<b>ESD</b>	<b>Class 3A</b>	<b>4000V to 8000V</b>
<b>RoHS Compliance</b>	<b>Yes</b>	

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

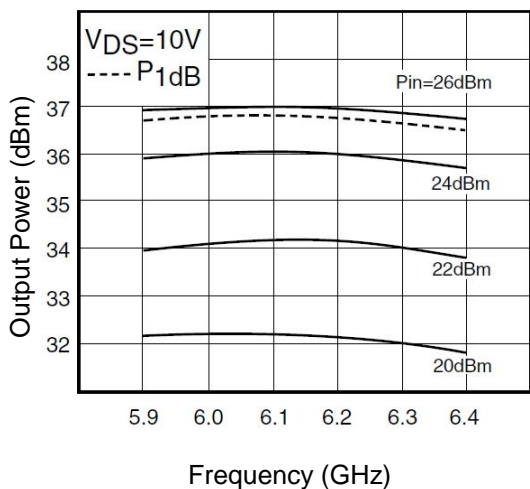
**POWER DERATING CURVE**



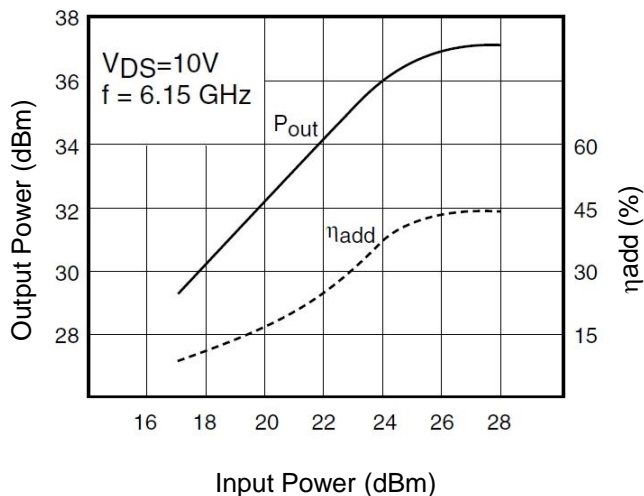
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

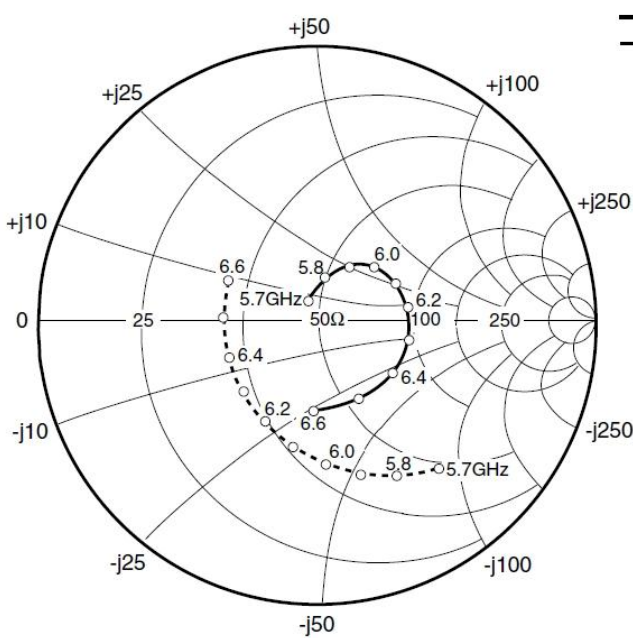


**OUTPUT POWER vs. FREQUENCY**

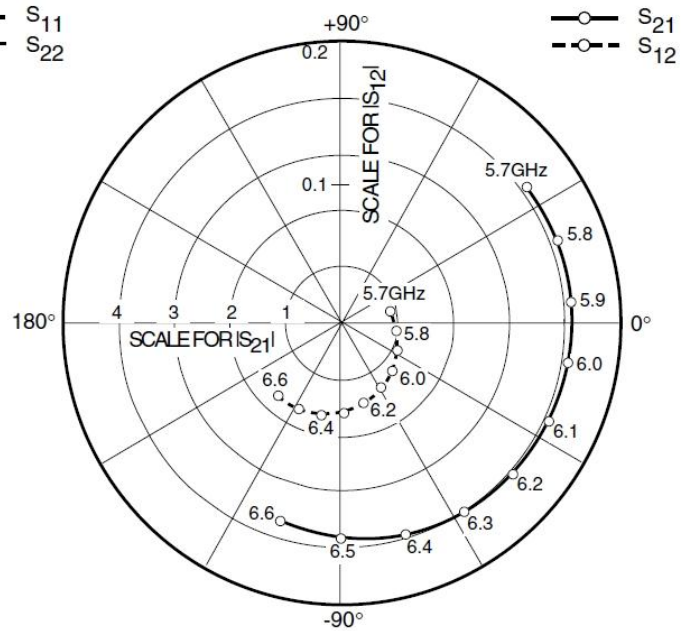


**OUTPUT POWER vs. INPUT POWER**





—○— S<sub>11</sub>  
- -○- - S<sub>22</sub>



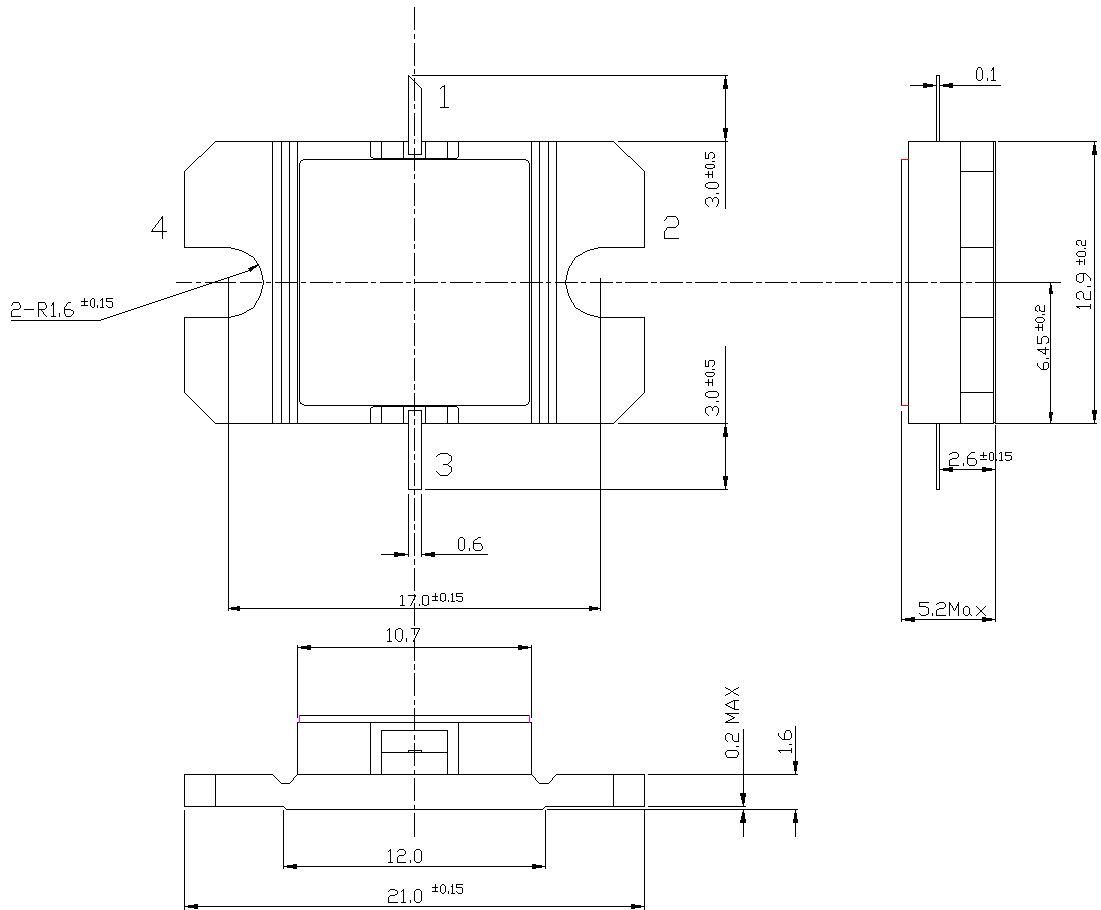
—○— S<sub>21</sub>  
- -○- - S<sub>12</sub>

### S-PARAMETERS

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

FREQUENCY (MHz)	S <sub>11</sub>		S <sub>21</sub>		S <sub>12</sub>		S <sub>22</sub>	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	0.085	112.7	4.092	35.9	0.035	12.5	0.677	-51.4
5800	0.160	80.6	4.126	20.7	0.040	-9.2	0.623	-62.8
5900	0.225	60.4	4.138	5.3	0.045	-28.5	0.569	-74.7
6000	0.277	42.8	4.131	-9.9	0.050	-44.1	0.513	-87.4
6100	0.310	25.2	4.095	-25.4	0.055	-60.7	0.460	-101.6
6200	0.331	7.3	4.056	-40.9	0.059	-75.2	0.409	-117.6
6300	0.335	-12.1	4.000	-56.8	0.065	-88.5	0.371	-136.1
6400	0.328	-34.9	3.924	-73.1	0.068	-103.2	0.344	-157.5
6500	0.320	-61.6	3.817	-90.1	0.069	-117.1	0.335	179.0
6600	0.324	-92.2	3.664	-107.3	0.070	-130.8	0.349	155.4

■ Package Outline  
Case Style : IB



Pin Assignment

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

Unit : mm



**FLM5964-4F**

***C-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.