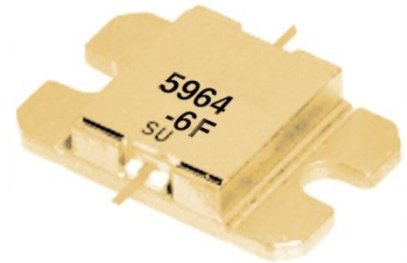


### FEATURES

- High Output Power:  $P_{1dB} = 38.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 10.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 37\%$  (Typ.)
- Low IM3 =  $-46\text{dBc}@P_o = 27.5\text{dBm}$
- Broad Band: 5.9 to 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



### DESCRIPTION

The FLM5964-6F 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	$P_T$	$T_c = 25\text{deg.C}$	31.2	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 -2.8 mA respectively with gate resistance of 100ohm.

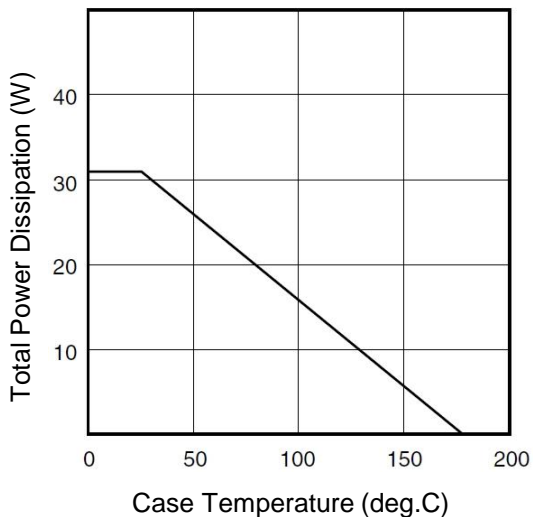
### ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25\text{deg.C}$ )

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	2500	3750	mA
Transconductance	$g_m$	$V_{DS}=5V, I_{DS}=1625\text{mA}$	-	2500	-	mS
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=125\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-125\mu\text{A}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DS}=10V,$ $I_{DS}=0.65 I_{DSS}$ (Typ.), $f=5.9$ to $6.4$ GHz, $Z_S=Z_L=50\text{ohm}$	37.5	38.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		9.0	10.0	-	dB
Drain Current	$I_{dsr}$		-	1625	1900	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 $P_{out} = 27.5\text{dBm}$ S.C.L.	-44	-46	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	4.0	4.8	deg.C/W
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	80	deg.C

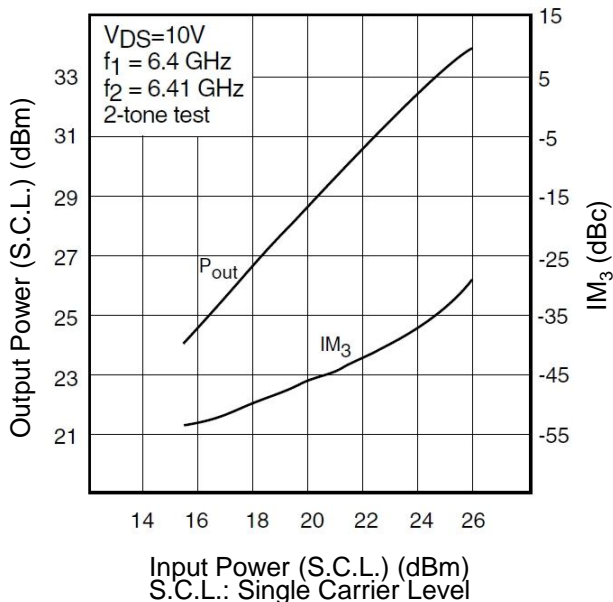
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

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

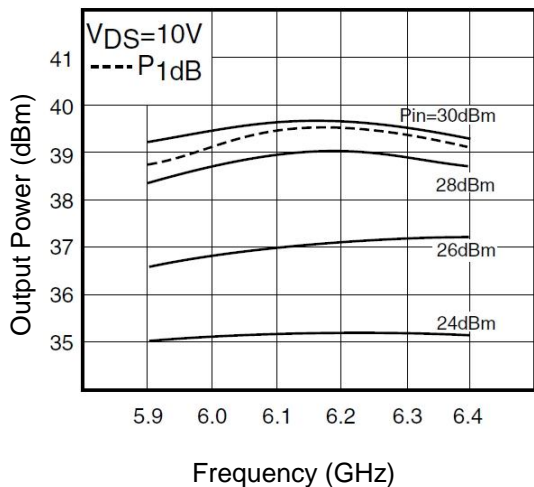
**POWER DERATING CURVE**



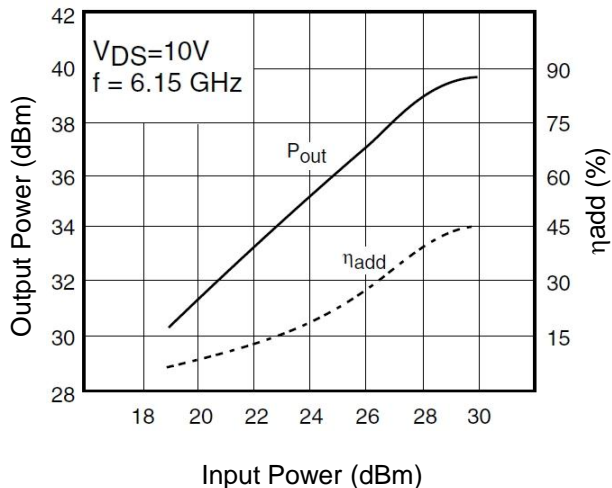
**OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER**

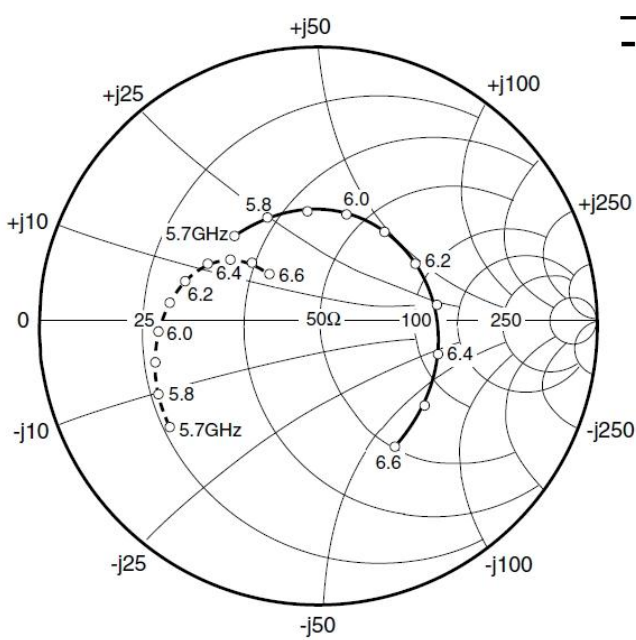


**OUTPUT POWER vs. FREQUENCY**

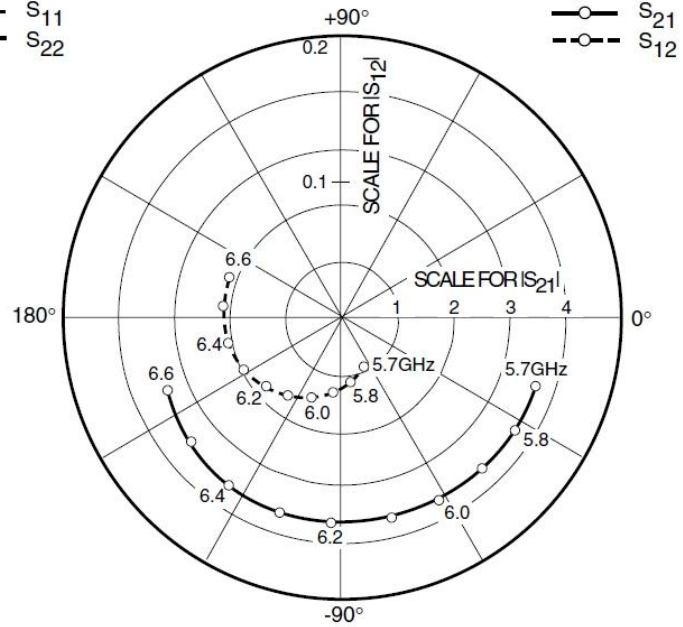


**OUTPUT POWER vs. INPUT POWER**





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



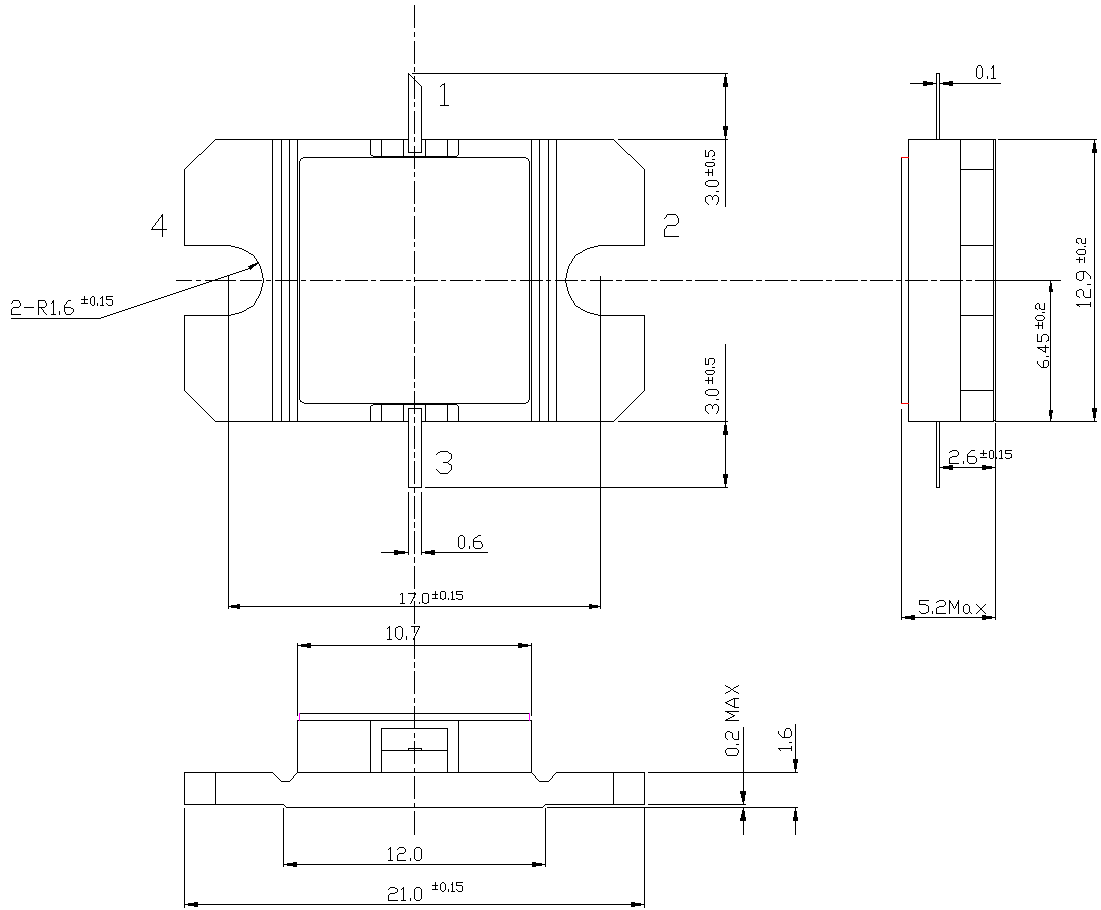
—○— S<sub>21</sub>  
- -○- - S<sub>12</sub>

### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 1625mA$

FREQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	0.432	134.8	3.652	-19.7	0.037	-65.3	0.660	-145.4
5800	0.417	116.5	3.676	-33.5	0.045	-83.1	0.641	-156.0
5900	0.403	97.1	3.681	-47.6	0.053	-98.2	0.617	-166.4
6000	0.395	75.9	3.705	-62.1	0.061	-112.7	0.589	-176.7
6100	0.391	53.8	3.708	-77.0	0.068	-126.4	0.555	173.0
6200	0.398	30.4	3.696	-92.2	0.074	-140.2	0.512	163.0
6300	0.416	7.1	3.661	-107.9	0.079	-154.4	0.458	153.7
6400	0.446	-16.1	3.609	-123.9	0.083	-169.3	0.396	145.0
6500	0.484	-38.9	3.525	-140.6	0.085	175.5	0.325	138.7
6600	0.529	-60.1	3.399	-157.1	0.086	160.2	0.253	137.3

■ Package Outline  
Case Style : IB



Pin Assignment

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

Unit : mm



**FLM5964-6F**

***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.