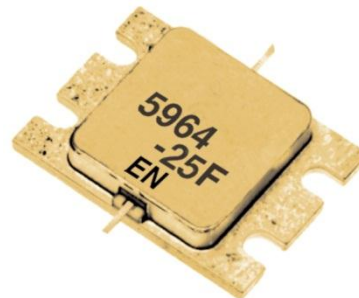


### FEATURES

- High Output Power:  $P_{1dB} = 44.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB} = 10.0\text{dB}$  (Typ.)
- High PAE:  $\eta_{add} = 37\%$  (Typ.)
- Low IM3 =  $-46\text{dBc}@P_o = 33.5\text{dBm}$
- Broad Band: 5.9 to 6.4GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



### DESCRIPTION

The FLM5964-25F 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	$P_T$	$T_c = 25\text{deg.C}$	93.7	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 64.0 and -11.2 mA respectively with gate resistance of 25ohm.

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	$I_{DSS}$	$V_{DS}=5V, V_{GS}=0V$	-	10	15	A
Transconductance	$g_m$	$V_{DS}=5V, I_{DS}=6.5A$	-	10	-	S
Pinch-off Voltage	$V_p$	$V_{DS}=5V, I_{DS}=500\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	$V_{GSO}$	$I_{GS}=-500\mu A$	-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, $Z_S=Z_L=50\text{ohm}$	43.5	44.5	-	dBm
Power Gain at 1dB G.C.P.	$G_{1dB}$		9.0	10.0	-	dB
Drain Current	$I_{dsr}$		-	6500	7600	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 $P_{out} = 33.5\text{dBm}$ S.C.L.	-44	-46	-	dBc
Thermal Resistance	$R_{th}$	Channel to Case	-	1.4	1.6	deg.C/W
Channel Temperature Rise	$\Delta T_{ch}$	$10V \times I_{dsr} \times R_{th}$	-	-	100	deg.C

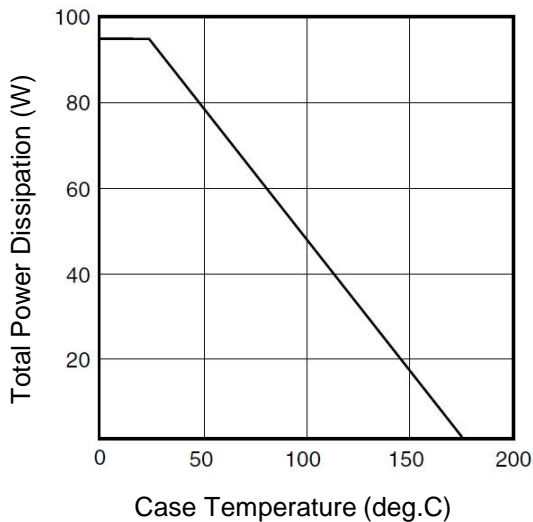
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

CASE STYLE	IK
ESD	Class 3A 4000V to 8000V

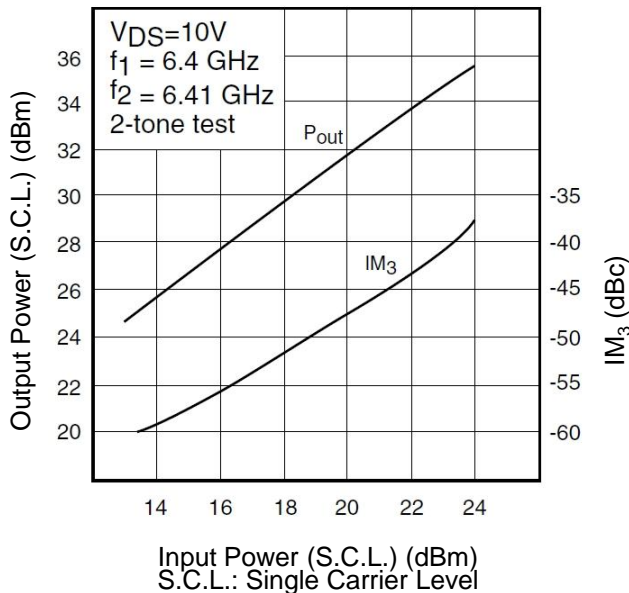
Note : Based on JEDEC JESD22-A114 (C=100pF, R=1.5kohm)

RoHS Compliance	Yes
-----------------	-----

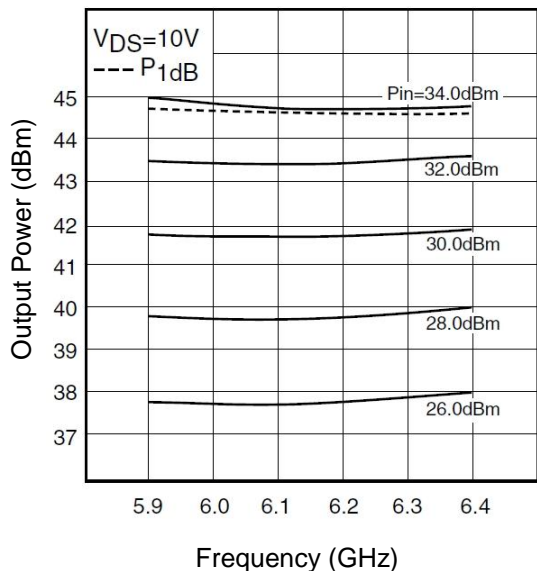
### POWER DERATING CURVE



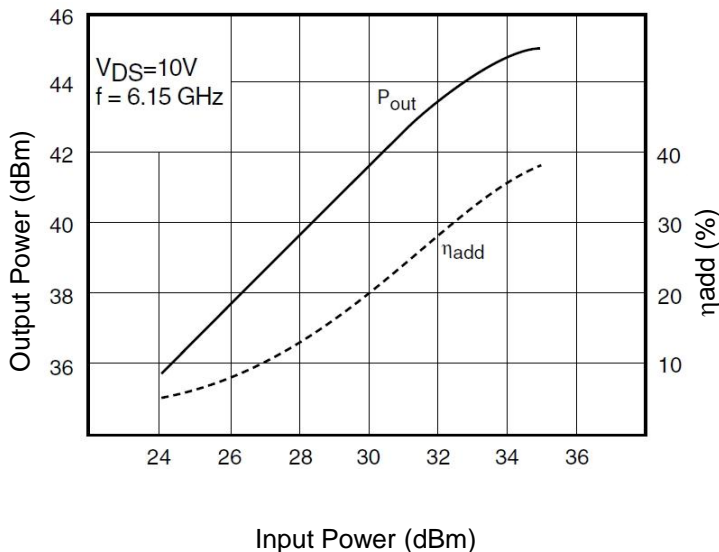
### OUTPUT POWER & IM<sub>3</sub> vs. INPUT POWER

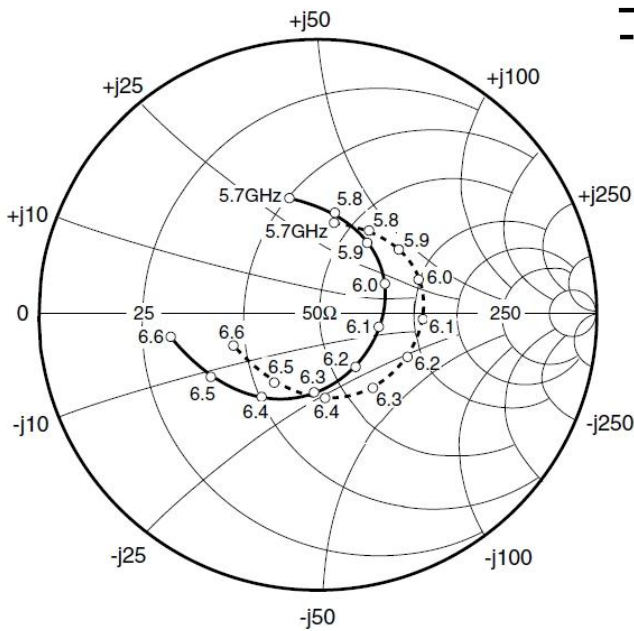


### OUTPUT POWER vs. FREQUENCY

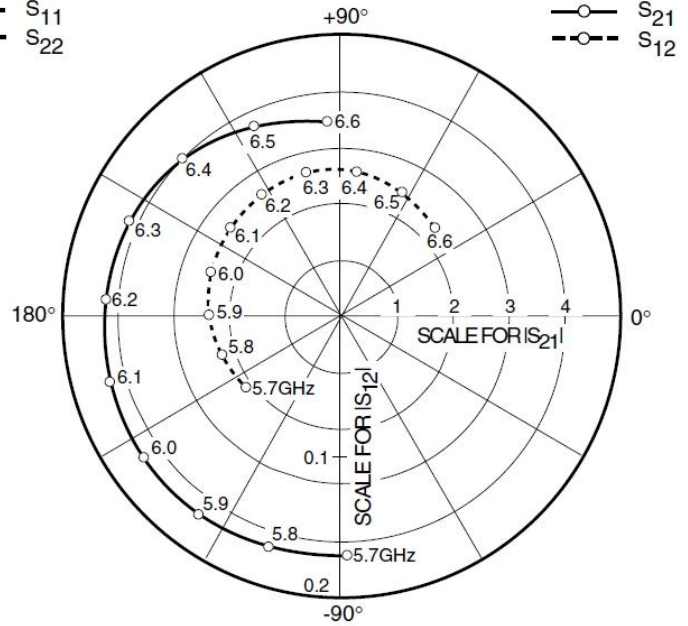


### OUTPUT POWER vs. INPUT POWER





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



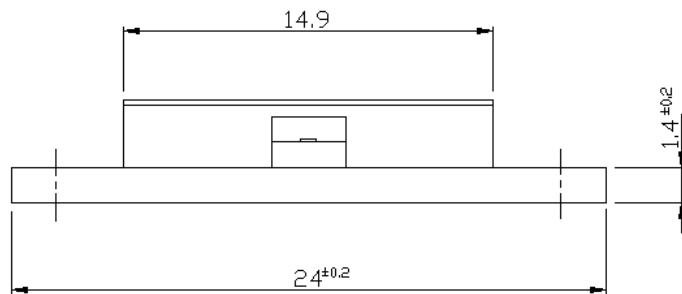
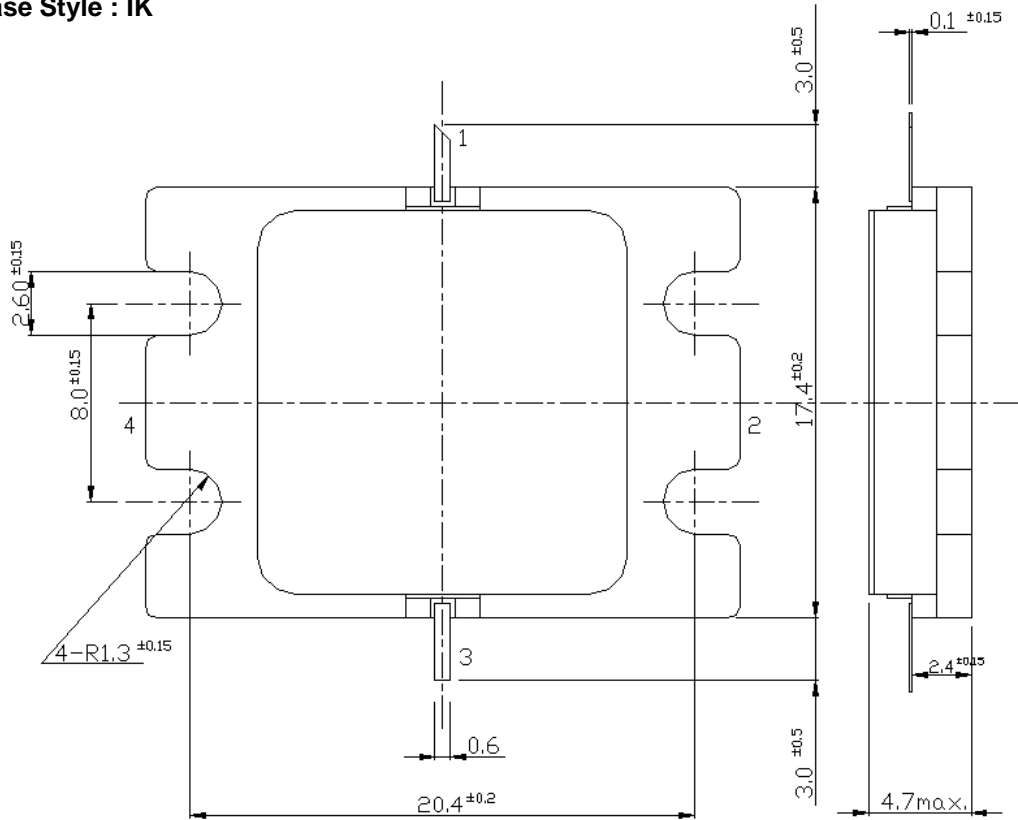
—○— S<sub>21</sub>  
- -○- - S<sub>12</sub>

### S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 6500mA$

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	0.428	104.1	4.249	-89.0	0.085	-144.0	0.335	79.6
5800	0.369	81.2	4.311	-107.4	0.090	-162.3	0.356	59.2
5900	0.311	55.2	4.347	-126.1	0.096	179.4	0.371	38.7
6000	0.261	24.5	4.354	-144.9	0.099	161.1	0.378	18.6
6100	0.230	-13.9	4.333	-164.2	0.103	142.1	0.374	-3.1
6200	0.240	-55.4	4.272	176.2	0.105	123.1	0.358	-26.4
6300	0.290	-92.9	4.170	156.2	0.106	103.7	0.333	-53.6
6400	0.365	-123.7	3.999	135.8	0.103	84.0	0.306	-85.1
6500	0.451	-148.8	3.756	115.2	0.099	63.8	0.300	-122.1
6600	0.538	-170.8	3.470	94.6	0.092	43.7	0.327	-159.3

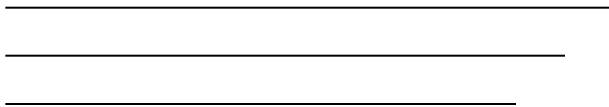
■ Package Outline  
Case Style : IK



Pin Assignment

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

Unit : mm



**FLM5964-25F**

***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.