

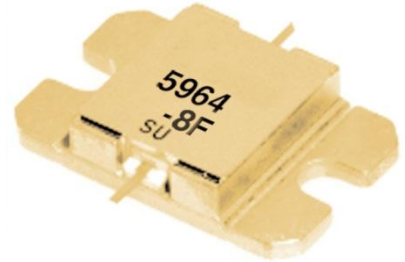
FEATURES

- High Output Power: $P_{1dB} = 39.5\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 10.0\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 37\%$ (Typ.)
- Low IM3: $-46\text{dBc}@P_o = 28.5\text{dBm}$
- Broad Band: 5.9 to 6.4GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package

DESCRIPTION

The FLM5964-8F 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	$T_c = 25\text{deg.C}$	42.8	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 32.0 and -4.4 mA respectively with gate resistance of 100ohm.

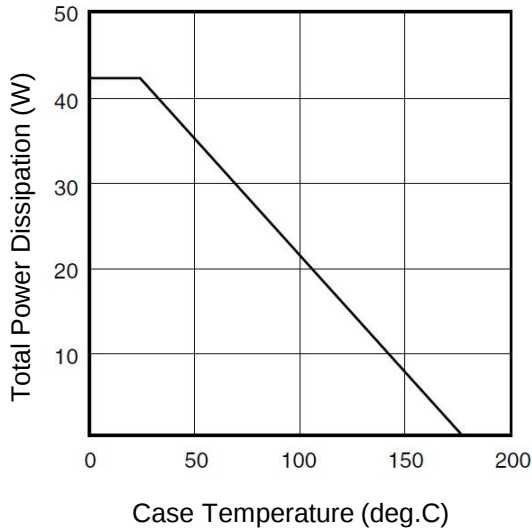
ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25\text{deg.C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	3400	5200	mA
Transconductance	g_m	$V_{DS}=5V, I_{DS}=2200\text{mA}$	-	3400	-	mS
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=170\text{mA}$	-0.5	-1.5	-3.0	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS}=-170\text{uA}$	-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, $Z_S=Z_L=50\text{ohm}$	38.5	39.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		9.0	10.0	-	dB
Drain Current	I_{DSR}		-	2200	2600	mA
Power-added Efficiency	η_{add}		-	37	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM_3	$f = 6.4$ GHz, $\Delta f = 10$ MHz 2-Tone Test $P_{out} = 28.5\text{dBm}$ S.C.L.	-44	-46	-	dBc
Thermal Resistance	R_{th}	Channel to Case	-	3.0	3.5	deg.C/W
Channel Temperature Rise	ΔT_{ch}	$10V \times I_{DSR} \times R_{th}$	-	-	80	deg.C

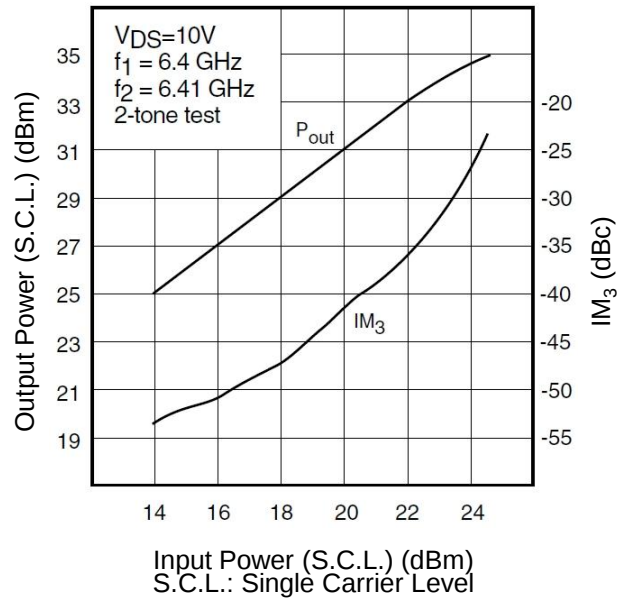
G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

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

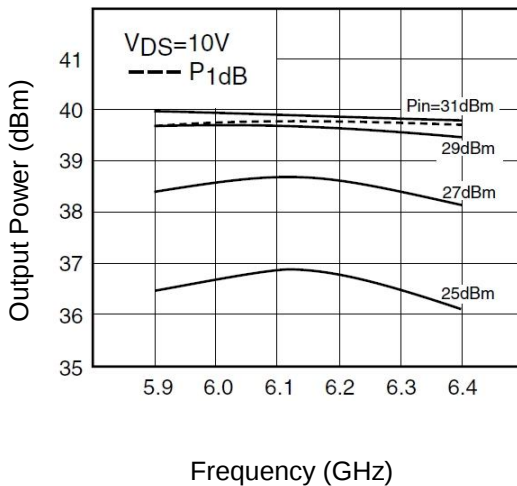
POWER DERATING CURVE



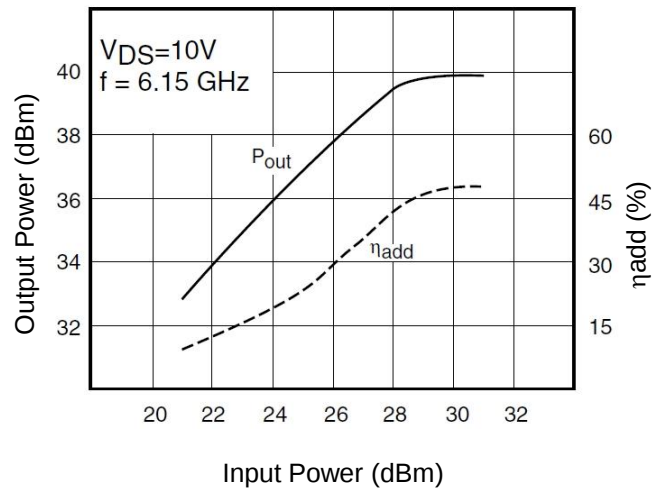
OUTPUT POWER & IM_3 vs. INPUT POWER

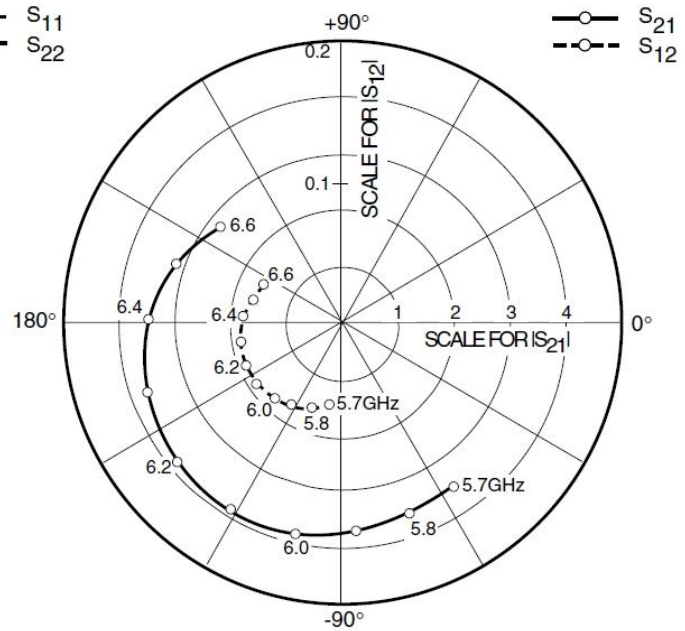
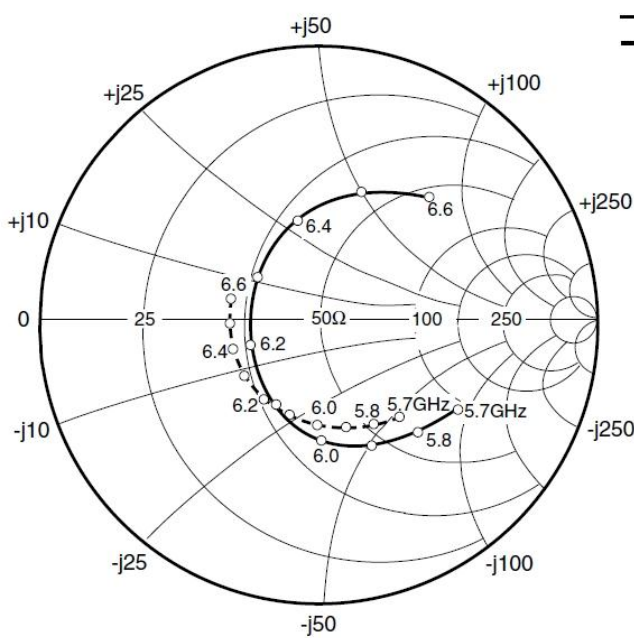


OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER



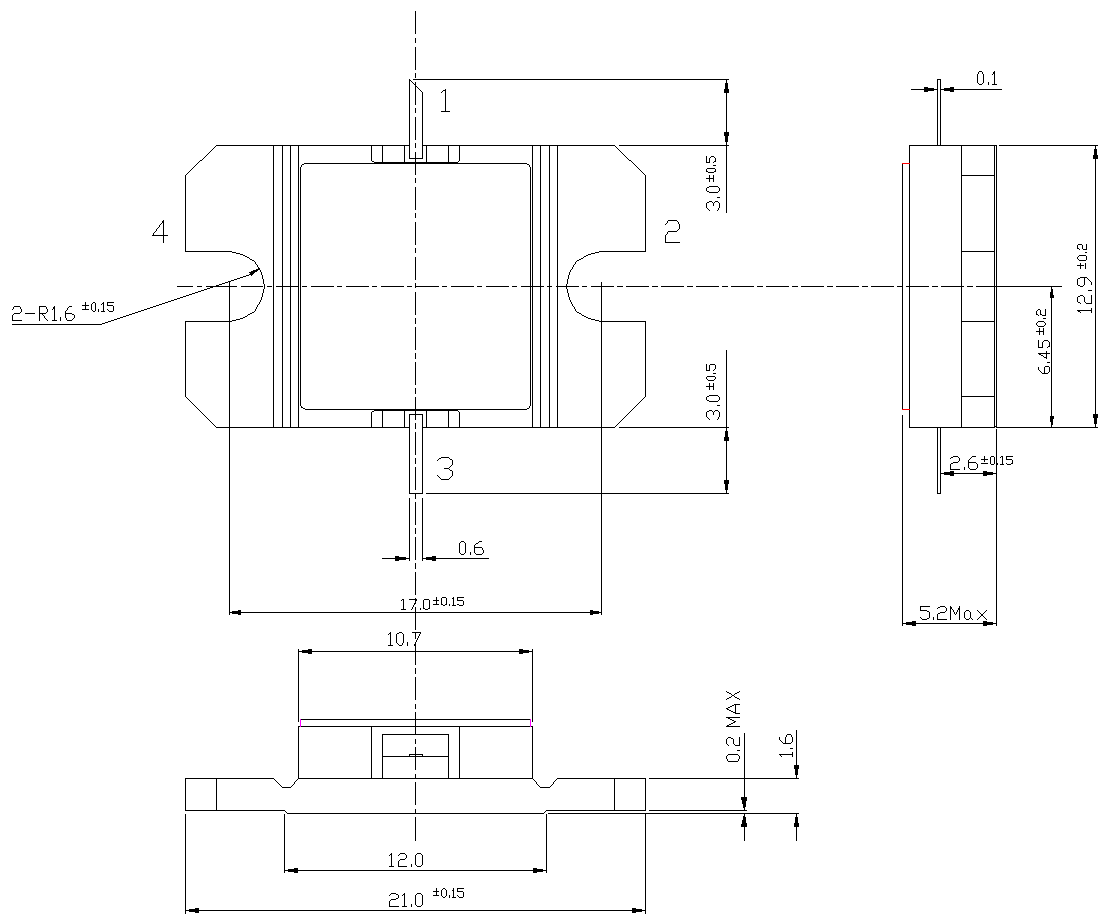


S-PARAMETERS

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

FREQUENCY (MHz)	S ₁₁		S ₂₁		S ₁₂		S ₂₂	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5700	0.584	-33.2	3.514	-56.2	0.060	-99.3	0.442	-50.4
5800	0.549	-49.0	3.607	-70.8	0.064	-108.7	0.415	-62.2
5900	0.495	-67.2	3.708	-86.5	0.069	-120.7	0.392	-75.7
6000	0.426	-89.1	3.811	-103.3	0.071	-131.5	0.370	-90.7
6100	0.342	-118.5	3.866	-121.3	0.075	-144.9	0.350	-107.2
6200	0.276	-160.1	3.849	-140.4	0.074	-156.2	0.337	-125.4
6300	0.281	146.6	3.723	-160.4	0.074	-168.8	0.329	-144.2
6400	0.369	102.5	3.473	179.6	0.071	176.9	0.325	-162.2
6500	0.486	71.8	3.145	160.3	0.066	165.9	0.322	-179.1
6600	0.589	48.2	2.763	142.2	0.061	154.0	0.327	165.6

■ Package Outline
Case Style : IB



Pin Assignment

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

Unit : mm

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.