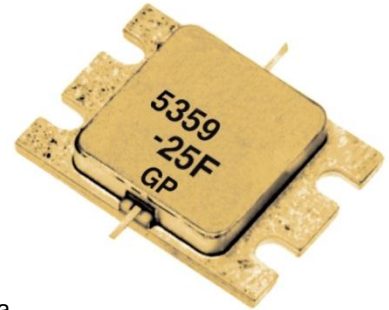


FEATURES

- High Output Power: $P_{1dB} = 44.5\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 8.5\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 39\%$ (Typ.)
- Low IM3 = $-46\text{dBc}@P_o = 33.5\text{dBm}$
- Broad Band: 5.3 to 5.9GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\text{ohm}$



DESCRIPTION

The FLM5359-25F 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 (Ambient Temperature $T_a=25\text{deg.C}$)

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 (Ambient Temperature $T_a=25\text{deg.C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	11.6	17.4	A
Transconductance	g_m	$V_{DS}=5V, I_{DS}=6800\text{mA}$	-	5800	-	mS
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=600\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS}=-600\text{uA}$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS}=10V,$	43.5	44.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}	$I_{DS}=0.55 I_{DSS}$ (Typ.),	7.5	8.5	-	dB
Drain Current	I_{dsr}	$f=5.3$ to 5.9 GHz,	-	6200	7600	mA
Power-added Efficiency	η_{add}	$Z_S=Z_L=50\text{ohm}$	-	39	-	%
Gain Flatness	ΔG		-	-	+/-0.6	dB
3rd Order Intermodulation Distortion	IM_3	$f = 5.9$ 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	ΔT_{ch}	$10V \times I_{dsr} \times R_{th}$	-	-	100	deg.C

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

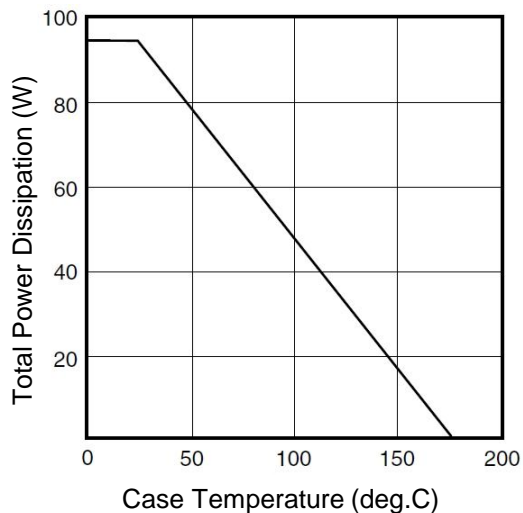
CASE STYLE	IK
-------------------	-----------

ESD	Class 3A	4000V to 8000V
------------	-----------------	-----------------------

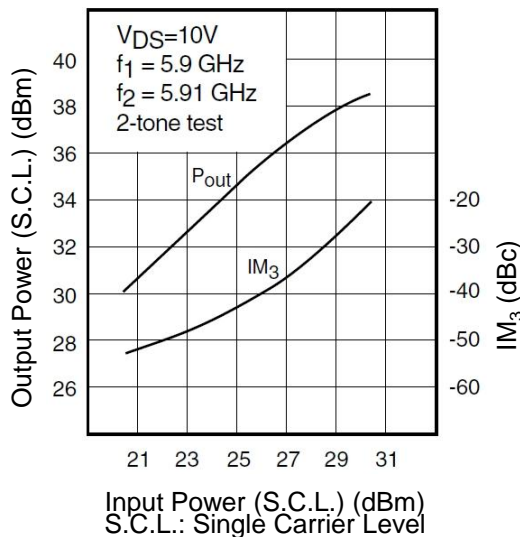
Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

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

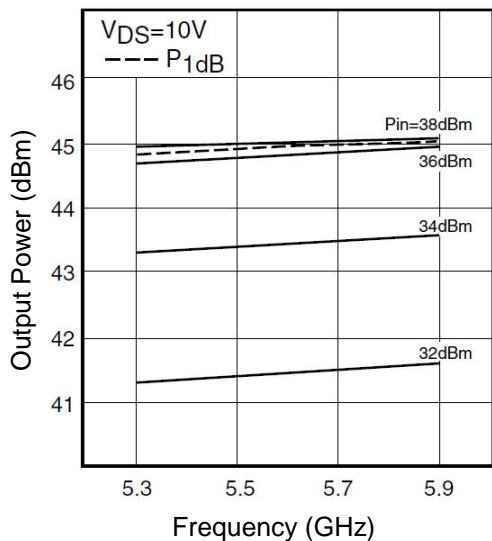
POWER DERATING CURVE



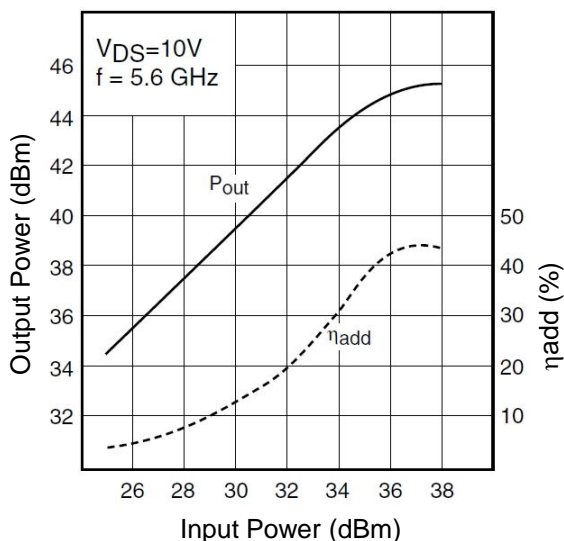
OUTPUT POWER & IM₃ vs. INPUT POWER

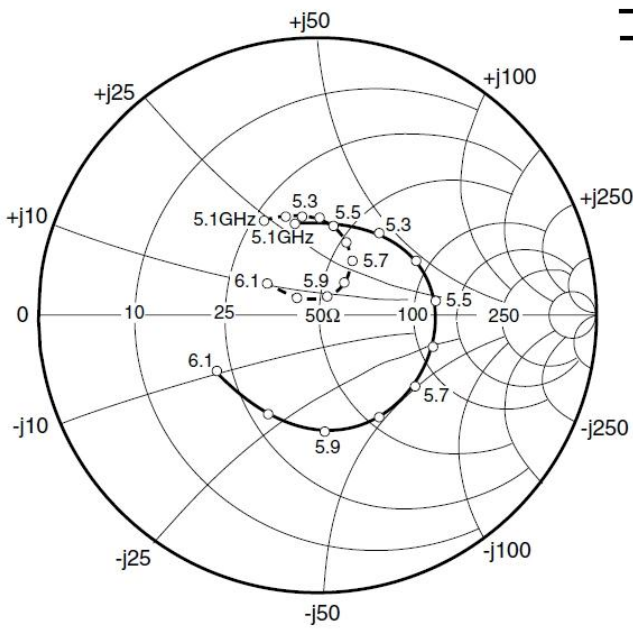


OUTPUT POWER vs. FREQUENCY

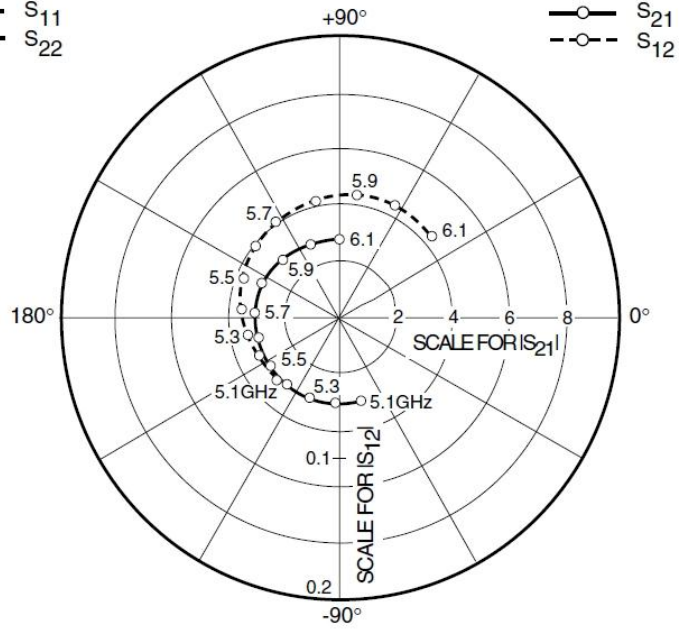


OUTPUT POWER vs. INPUT POWER





—○— S₁₁
- -○- - S₂₂



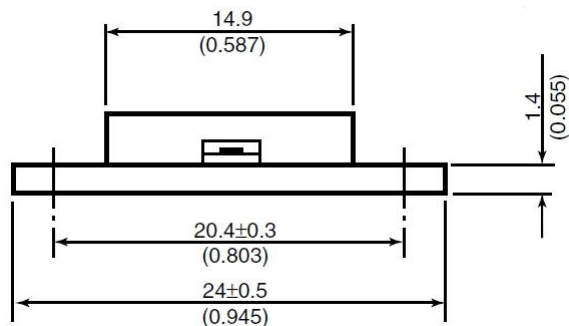
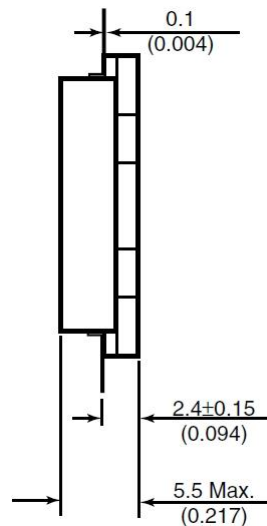
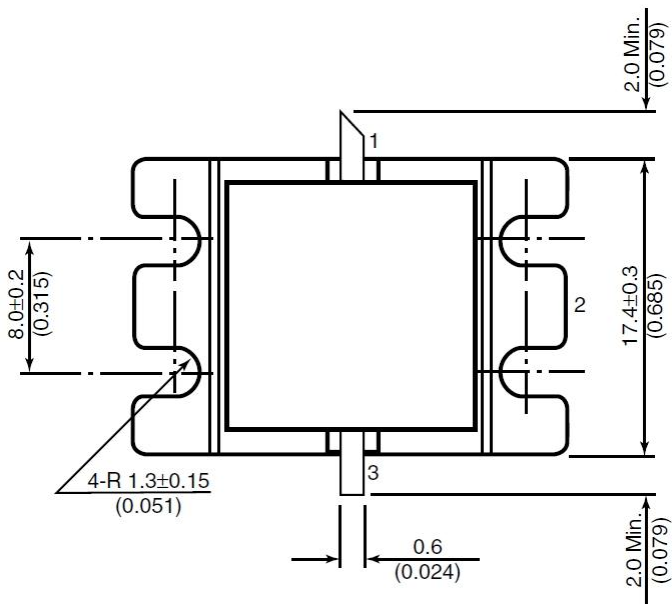
—○— S₂₁
- -○- - S₁₂

S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 6800mA$

FREQUENCY (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5100	0.342	104.6	3.045	-77.3	0.063	-137.6	0.392	119.8
5200	0.349	78.6	3.013	-94.3	0.064	-155.3	0.366	108.1
5300	0.370	52.9	3.043	-111.7	0.068	-170.0	0.354	99.2
5400	0.393	28.8	3.045	-129.9	0.070	174.1	0.343	88.6
5500	0.416	6.7	3.045	-147.8	0.075	158.1	0.321	78.2
5600	0.432	-14.4	3.054	-166.3	0.080	140.2	0.281	67.6
5700	0.436	-36.2	3.060	174.9	0.083	122.1	0.226	57.1
5800	0.428	-59.4	3.061	155.4	0.085	103.4	0.152	50.8
5900	0.417	-86.4	3.041	135.0	0.088	83.3	0.071	65.3
6000	0.407	-117.2	2.964	113.5	0.088	63.5	0.091	141.9
6100	0.418	-150.9	2.812	91.3	0.086	40.5	0.215	148.0

Case Style "IK"
Metal-Ceramic Hermetic Package



- 1. Gate
- 2. Source (Flange)
- 3. Drain

Unit: mm(inches)



FLM5359-25F

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.