

FEATURES

- High Output Power: $P_{1dB}=45.5\text{dBm(Typ.)}$
- High Gain: $G_{1dB}=9.0\text{dB(Typ.)}$
- High PAE: $\eta_{add}=35\%\text{(Typ.)}$
- Broad Band: 5.3 to 5.9GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\text{ohm}$
- Hermetically Sealed Package



DESCRIPTION

The FLM5359-35F is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50ohm system.

ABSOLUTE MAXIMUM RATINGS (Case Temperature $T_c=25\text{deg.C}$)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	15	V
Gate-Source Voltage	V_{GS}	-5	V
Total Power Dissipation	P_T	115.4	W
Storage Temperature	T_{stg}	-65 to +175	deg.C
Channel Temperature	T_{ch}	175	deg.C

RECOMMENDED OPERATING CONDITION (Case Temperature $T_c=25\text{deg.C}$)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V_{DS}		≤ 10	V
Forward Gate Current	I_{GF}	$R_G=13\text{ohm}$	≤ 107.2	mA
Reverse Gate Current	I_{GR}	$R_G=13\text{ohm}$	≥ -23.2	mA

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

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	-	16.0	24.0	A
Transconductance	g_m	$V_{DS}=5V, I_{DS}=8.0A$	-	8000	-	mS
Pinch-off Voltage	V_p	$V_{DS}=5V, I_{DS}=960\text{mA}$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS}=-960\mu A$	-5.0	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS}=10V$	45.0	45.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}	$f=5.3 \text{ to } 5.9 \text{ GHz}$	8.0	9.0	-	dB
Drain Current	I_{dsr}	$I_{DS}=0.5 I_{DSS} \text{ (Typ.)}$	-	8.5	9.5	A
Power-Added Efficiency	η_{add}		-	35	-	%
Gain Flatness	ΔG	$Z_s=Z_L=50\text{ohm}$	-	-	1.2	dB
Thermal Resistance	R_{th}	Channel to Case	-	1.1	1.3	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

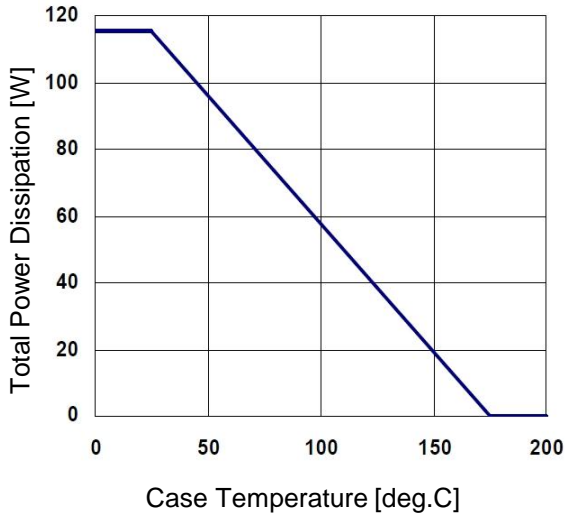
CASE STYLE	IK
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ESD	Class 3A	4000V to 8000V
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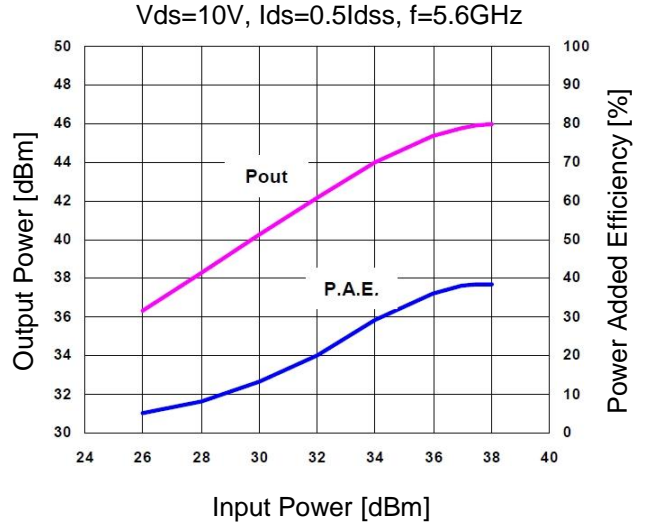
Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5kohm)

RoHS Compliance	Yes
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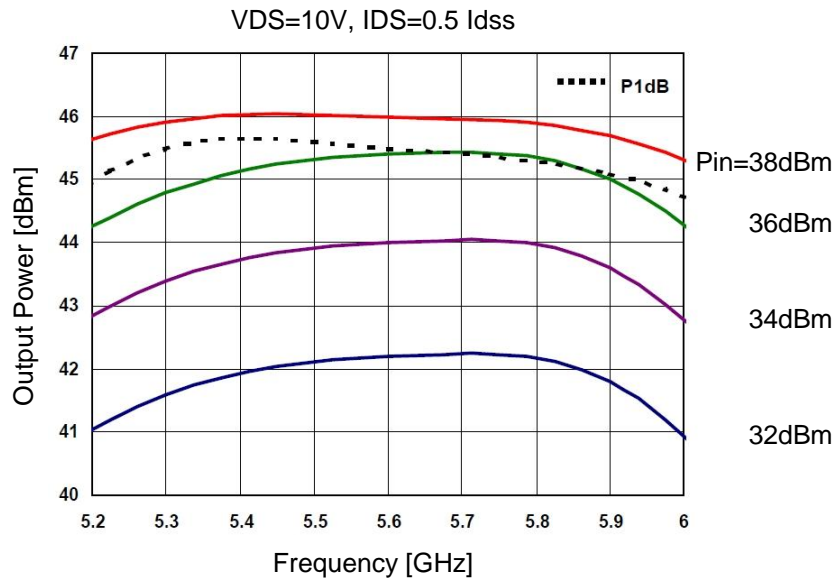
POWER DERATING CURVE



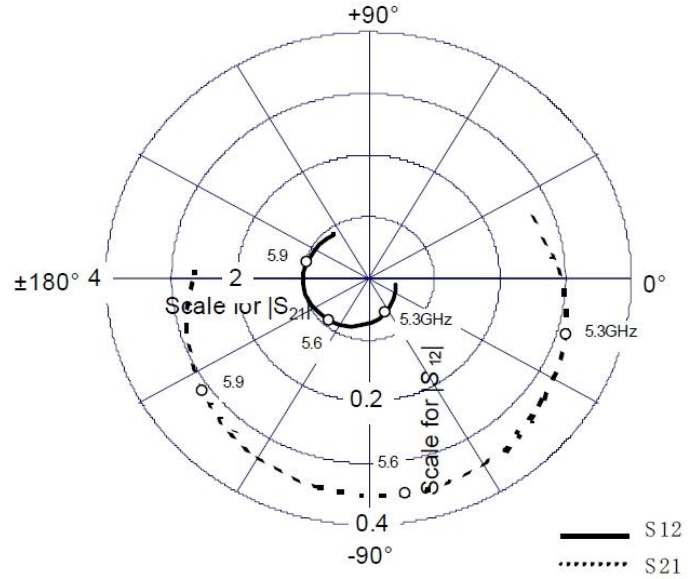
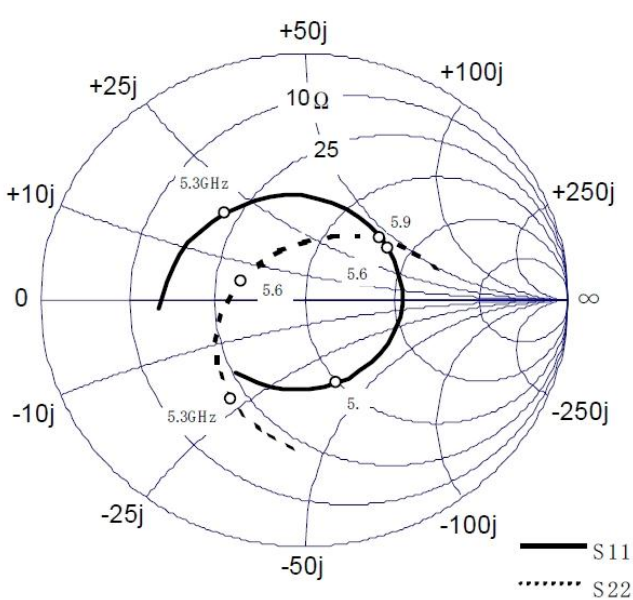
OUTPUT POWER & POWER ADDED EFFICIENCY vs INPUT POWER



OUTPUT POWER vs FREQUENCY



S-PARAMETER

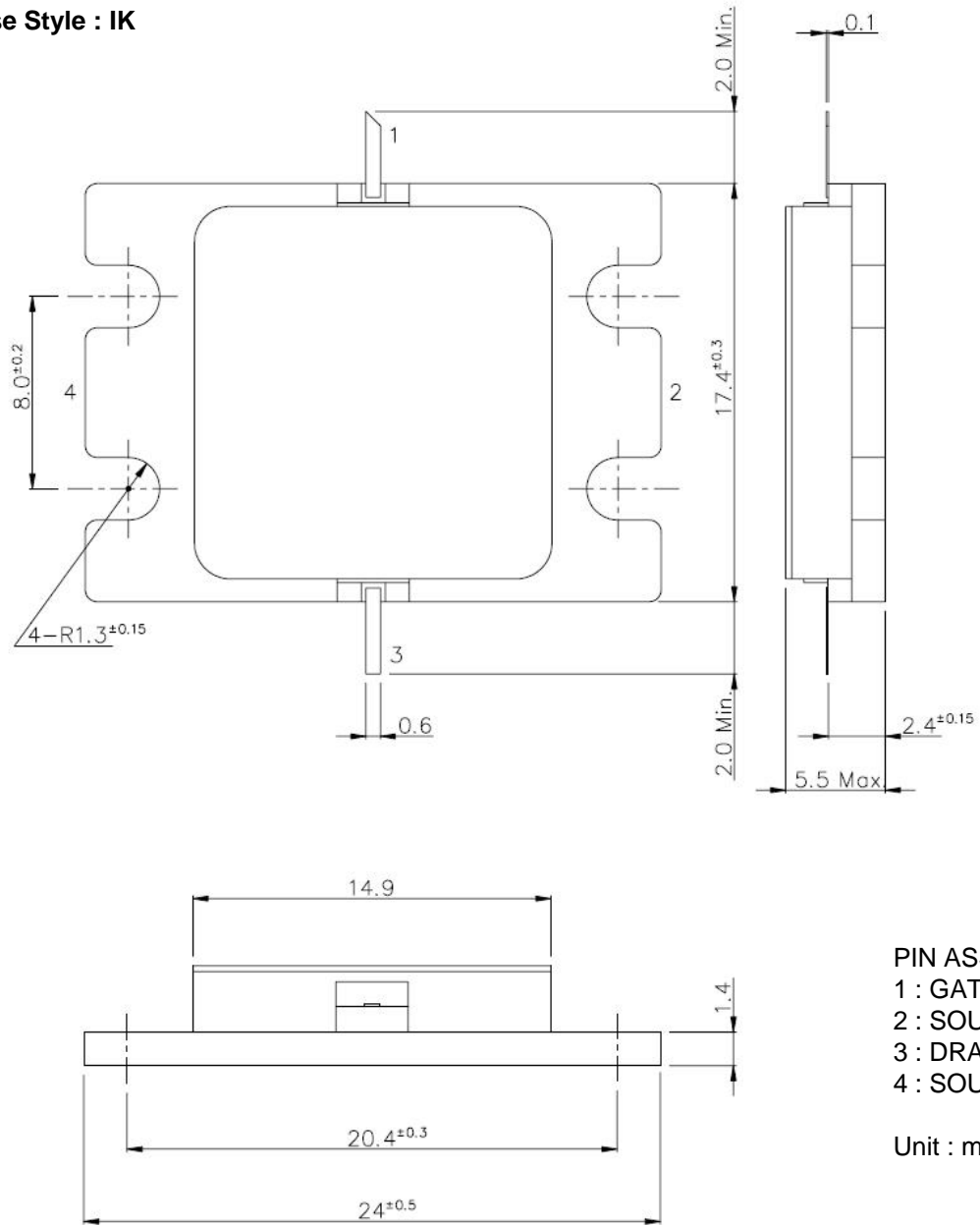


VDS=10V, IDS=0.5Idss

Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.1	0.55	-176.35	2.67	21.09	0.04	-14.96	0.60	-94.10
5.2	0.51	158.56	2.90	2.47	0.05	-40.60	0.55	-108.11
5.3	0.46	130.78	3.14	-16.92	0.06	-64.94	0.49	-124.14
5.4	0.43	100.35	3.34	-37.44	0.07	-86.42	0.42	-142.79
5.5	0.40	67.00	3.48	-58.64	0.08	-109.29	0.33	-165.42
5.6	0.38	33.18	3.53	-80.56	0.09	-131.37	0.25	162.44
5.7	0.37	-2.60	3.49	-102.21	0.10	-153.13	0.22	113.75
5.8	0.36	-37.11	3.33	-123.77	0.10	-174.77	0.28	68.08
5.9	0.36	-70.87	3.13	-144.23	0.10	164.53	0.38	41.18
6.0	0.37	-103.18	2.88	-163.44	0.09	144.50	0.46	24.47
6.1	0.39	-132.38	2.64	178.04	0.09	127.05	0.52	12.40

■ Package Out Line

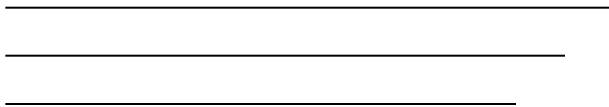
Case Style : IK



PIN ASSIGNMENT

- 1 : GATE
- 2 : SOURCE
- 3 : DRAIN
- 4 : SOURCE

Unit : mm



FLM5359-35F
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.