

FLM5359-35F

C-Band Internally Matched FET

FEATURES

- High Output Power: P1dB=45.5dBm(Typ.)
- High Gain: G1dB=9.0dB(Typ.)
- High PAE: η_{add} =35%(Typ.)
- Broad Band: 5.3~5.9GHz
- Impedance Matched Zin/Zout = 50 Ω
- 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 50 Ω system.

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°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	°C
Channel Temperature	T _{ch}	175	°C

RECOMMENDED OPERATING CONDITION (Case Temperature Tc=25°C)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V _{DS}		≤ 10	V
Forward Gate Current	I _{GF}	R _G =13 Ω	≤ 107.2	mA
Reverse Gate Current	I _{GR}	R _G =13 Ω	≥ -23.2	mA

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°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} =960mA	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-960 μ A	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V f=5.3 - 5.9 GHz I _{DS} =0.5I _{DSS} (Typ.) Z _s =Z _L =50 Ω	45.0	45.5	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}		8.0	9.0	-	dB
Drain Current	I _{DSR}		-	8.5	9.5	A
Power-Added Efficiency	η_{add}		-	35	-	%
Gain Flatness	ΔG		-	-	1.2	dB
Thermal Resistance	R _{th}	Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	ΔT_{ch}	10V X I _{DSR} X R _{th}	-	-	100	°C

CASE STYLE: IK

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

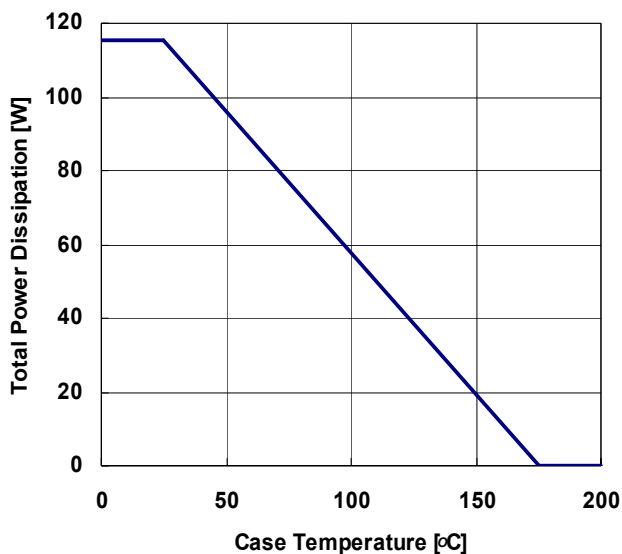
ESD	Class III	2000V ~
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Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5k Ω)

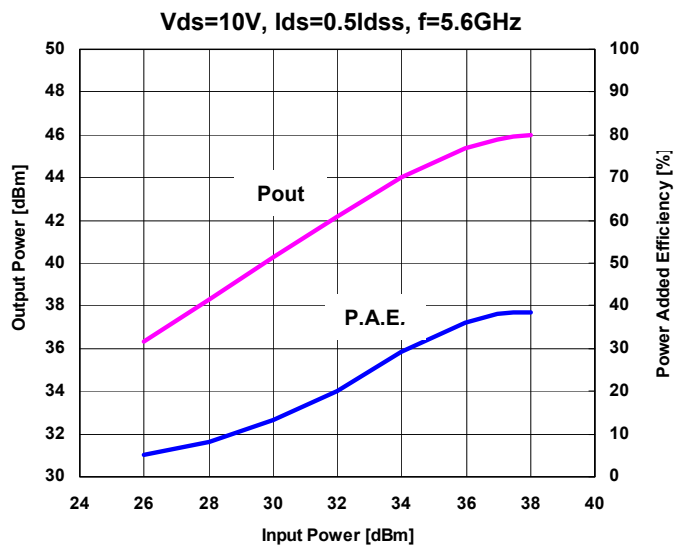
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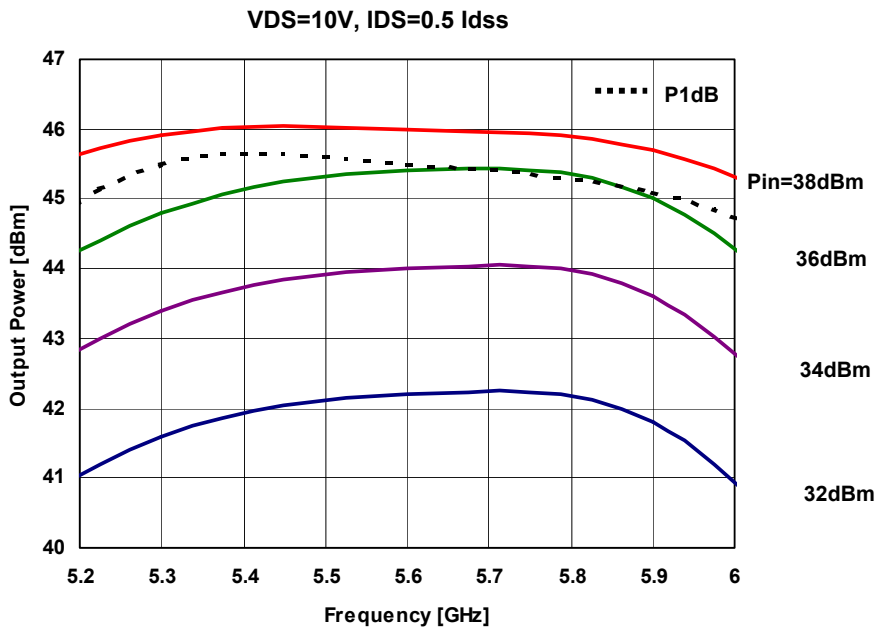
POWER DERATING CURVE



OUTPUT POWER & POWER ADDED EFFICIENCY vs INPUT POWER



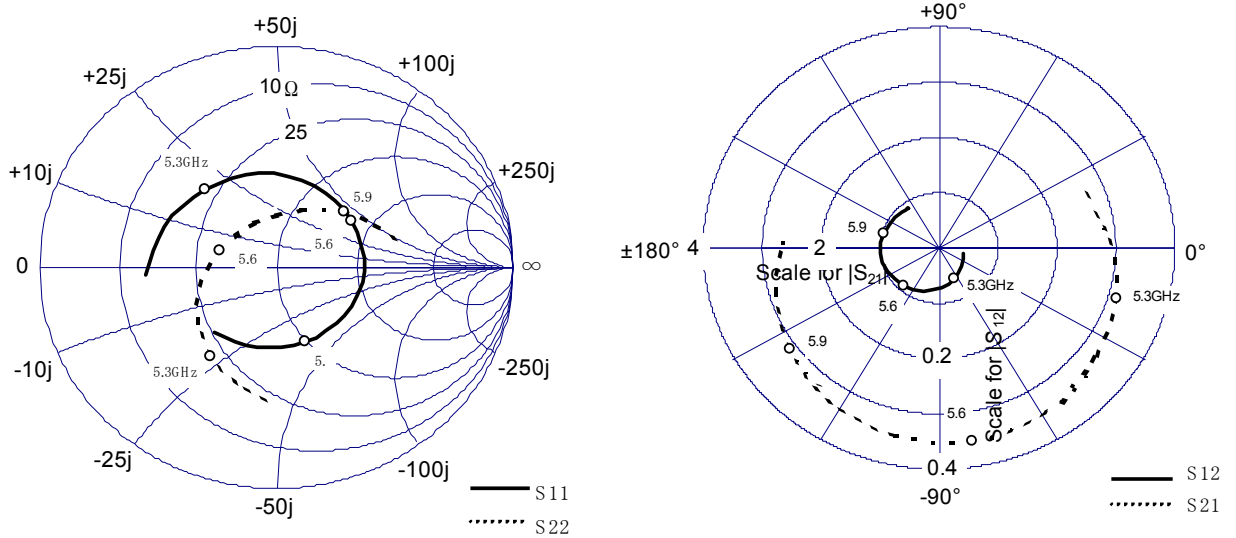
OUTPUT POWER vs FREQUENCY



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■ S-PARAMETER



VDS=10V, IDS=0.5Idss

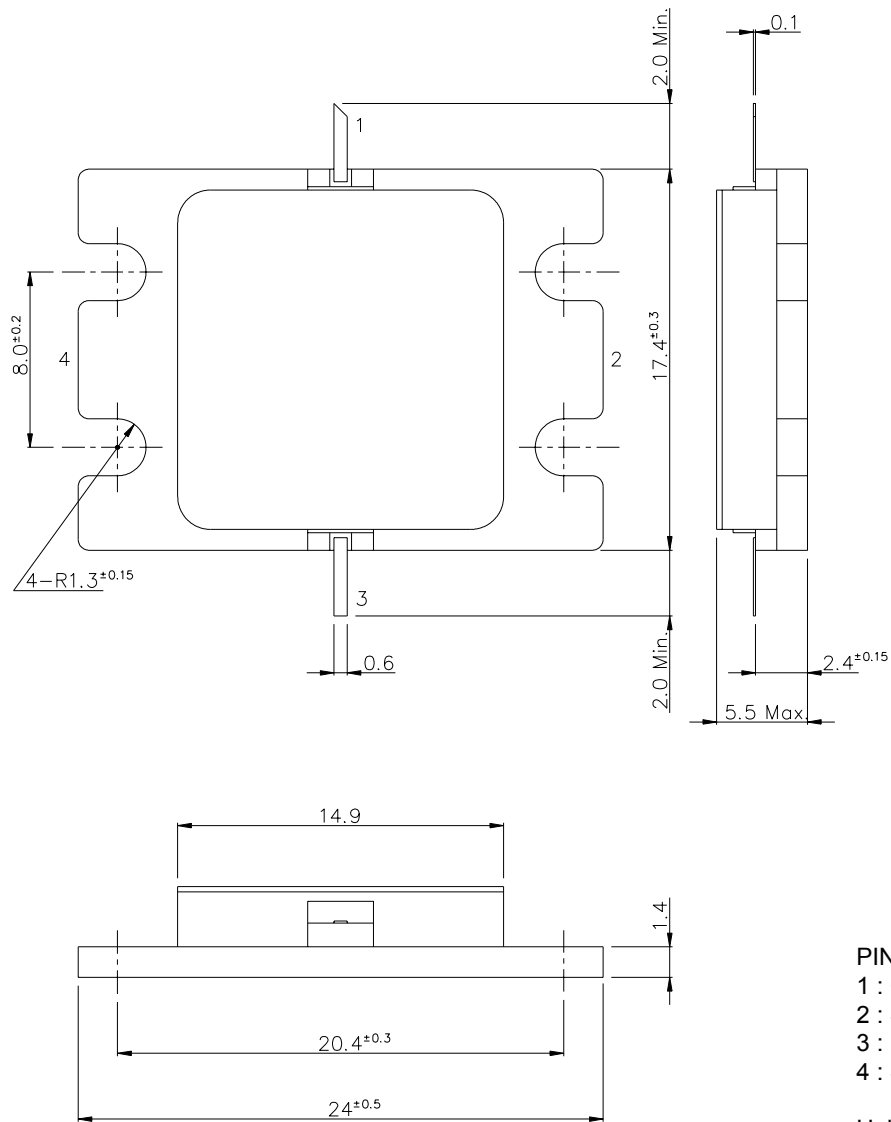
Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.1	0.55	-176.35	2.67	21.09	0.04	-14.96	0.60	-94.10
5.2	0.51	158.56	2.90	2.47	0.05	-40.60	0.55	-108.11
5.3	0.46	130.78	3.14	-16.92	0.06	-64.94	0.49	-124.14
5.4	0.43	100.35	3.34	-37.44	0.07	-86.42	0.42	-142.79
5.5	0.40	67.00	3.48	-58.64	0.08	-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	0.37	-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

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■ Package Out Line

Case Style : IK



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