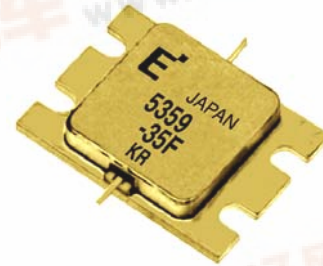


# FLM5359-35F

## C-Band Internally Matched FET

### FEATURES

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

### ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V <sub>DS</sub>	15	V
Gate-Source Voltage	V <sub>GS</sub>	-5	V
Total Power Dissipation	P <sub>T</sub>	115.4	W
Storage Temperature	T <sub>stg</sub>	-65 to +175	°C
Channel Temperature	T <sub>ch</sub>	175	°C

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

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V <sub>DS</sub>		≤10	V
Forward Gate Current	I <sub>GF</sub>	R <sub>G</sub> =13 $\Omega$	≤107.2	mA
Reverse Gate Current	I <sub>GR</sub>	R <sub>G</sub> =13 $\Omega$	≥-23.2	mA

### ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Test Conditions	Limit			Unit	
			Min.	Typ.	Max.		
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =5V, V <sub>GS</sub> =0V	-	16.0	24.0	A	
Transconductance	g <sub>m</sub>	V <sub>DS</sub> =5V, I <sub>DS</sub> =8.0A	-	8000	-	mS	
Pinch-off Voltage	V <sub>p</sub>	V <sub>DS</sub> =5V, I <sub>DS</sub> =960mA	-1.0	-2.0	-3.5	V	
Gate-Source Breakdown Voltage	V <sub>GSO</sub>	I <sub>GS</sub> =-960 $\mu$ A	-5.0	-	-	V	
Output Power at 1dB G.C.P.	P <sub>1dB</sub>	V <sub>DS</sub> =10V f=5.3 - 5.9 GHz I <sub>DS</sub> =0.5I <sub>DSS</sub> (Typ.) Z <sub>S</sub> =Z <sub>L</sub> =50 $\Omega$	45.0	45.5	-	dBm	
Power Gain at 1dB G.C.P.	G <sub>1dB</sub>		8.0	9.0	-	dB	
Drain Current	I <sub>DSR</sub>		-	8.5	9.5	A	
Power-Added Efficiency	$\eta_{add}$		-	35	-	%	
Gain Flatness	$\Delta G$		-	-	1.2	dB	
Thermal Resistance	R <sub>th</sub>		Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	$\Delta T_{ch}$		10V X I <sub>DSR</sub> X R <sub>th</sub>	-	-	100	°C

CASE STYLE: IK

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

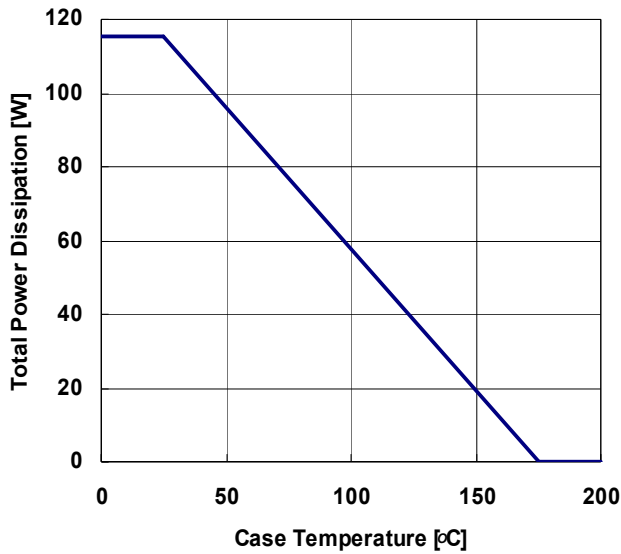
ESD	Class III	2000V ~
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Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5k $\Omega$ )

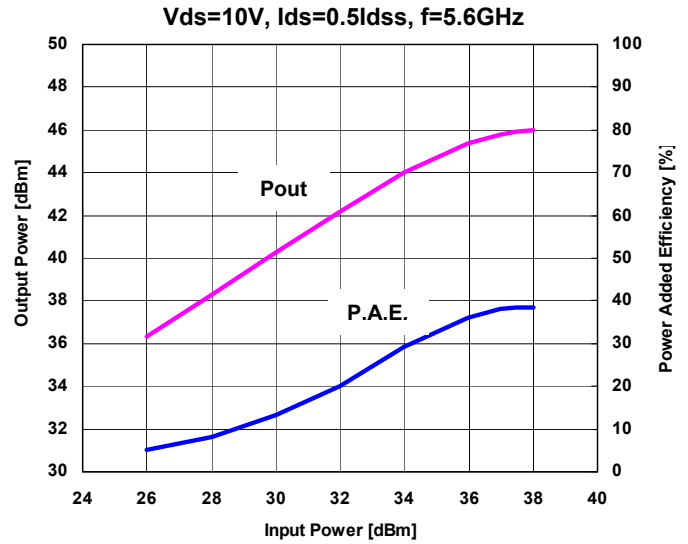
# FLM5359-35F

C-Band Internally Matched FET

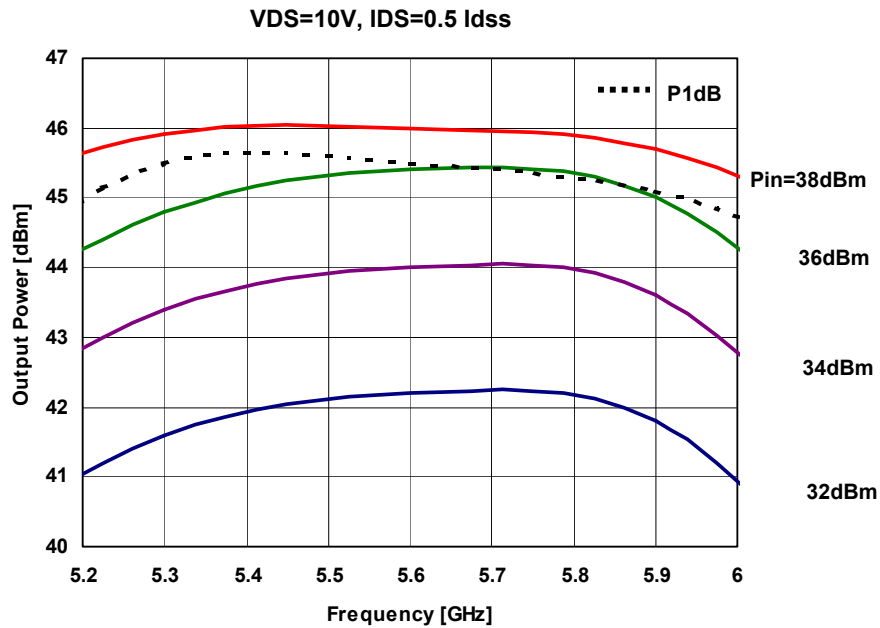
POWER DERATING CURVE



OUTPUT POWER & POWER ADDED EFFICIENCY vs INPUT POWER



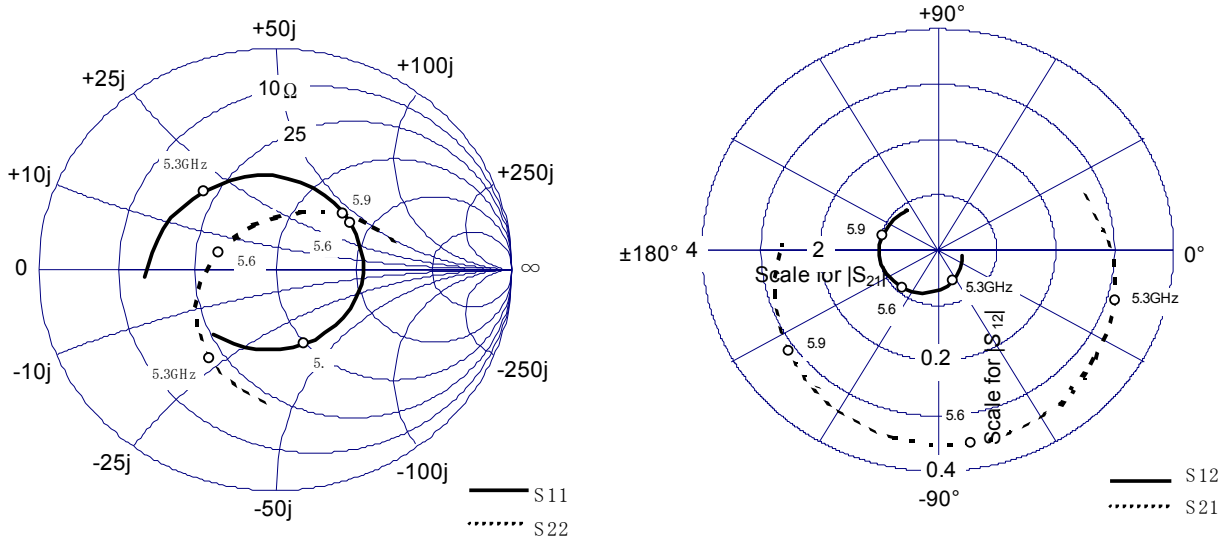
OUTPUT POWER vs FREQUENCY



# FLM5359-35F

## C-Band Internally Matched FET

### ■ S-PARAMETER



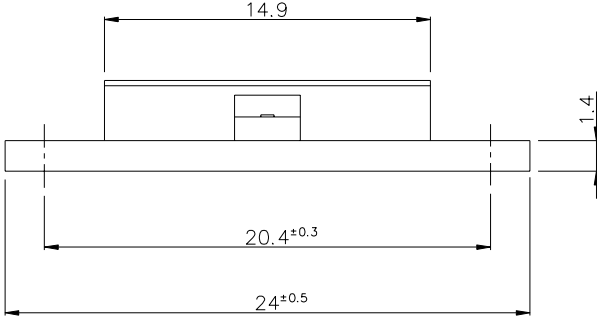
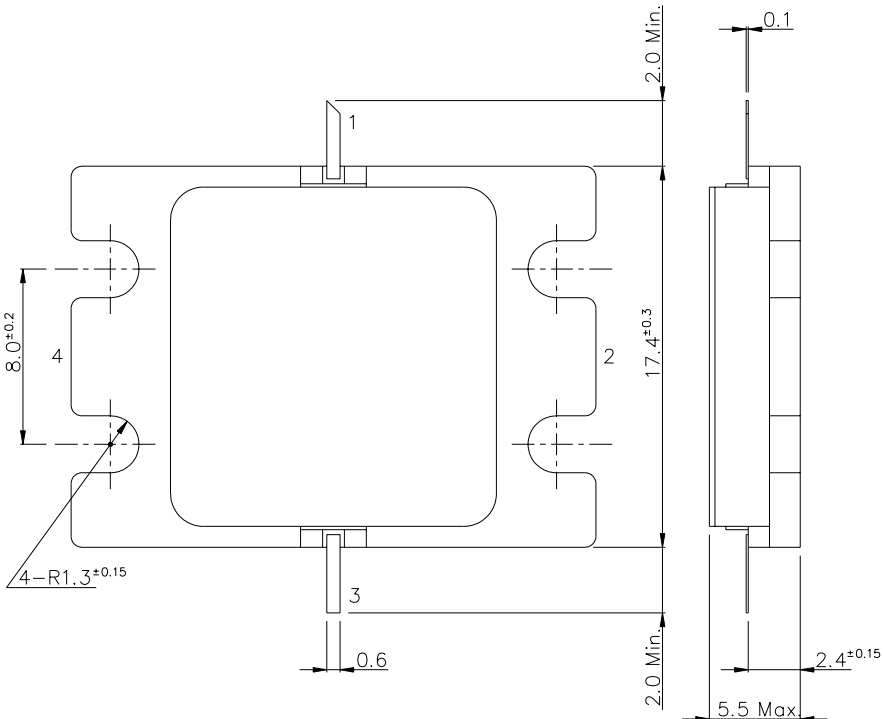
VDS=10V, IDS=0.5Idss

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

# FLM5359-35F

C-Band Internally Matched FET

■ Package Out Line  
Case Style : IK



PIN ASSIGMENT  
 1 : GATE  
 2 : SOURCE  
 3 : DRAIN  
 4 : SOURCE  
 Unit : mm

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# FLM5359-35F

## C-Band Internally Matched FET

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