

FLM5053-35F

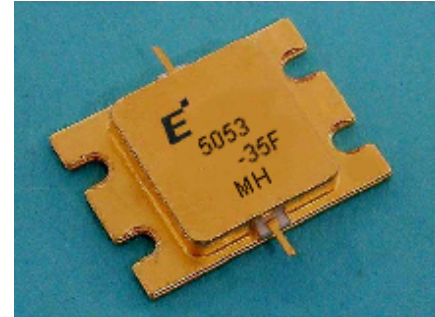
C-Band Internally Matched FET

FEATURES

- High Output Power: P_{1dB}=45.5dBm(Typ.)
- High Gain: G_{1dB}=8.0dB(Typ.)
- High PAE: η_{add} =35%(Typ.)
- Broad Band: 5.0~5.3GHz
- Impedance Matched Z_{in}/Z_{out} = 50 Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM5053-35F 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 T_c=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 T_c=25°C)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V _{DS}		≤ 10	V
Forward Gate Current	I _{GF}	R _G =25 ohm	≤ 52.0	mA
Reverse Gate Current	I _{GR}	R _G =25 ohm	≥ -23.2	mA
Storage Temperature	T _{stg}		-55 to +125	°C

ELECTRICAL CHARACTERISTICS (Case Temperature T_c=25°C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I _{DSS}	V _{DS} =5V, V _{GS} =0V	-	16.0	-	A
Trans conductance	g _m	V _{DS} =5V, I _{DS} =8.0A	-	8.0	-	S
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} =-960uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V	44.5	45.5	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}	f= 5.0 ~ 5.3 GHz	7.0	8.0	-	dB
Drain Current	I _{DSr}	I _{DS} DC=8.5A (typ.)	-	8.0	9.0	A
Power-added Efficiency	η_{add}	Z _S =Z _L =50 ohm	-	35	-	%
Gain Flatness	ΔG		-	-	1.2	dB
3rd Order Intermodulation Distortion	IM ₃	f=5.3 GHz Δf =10MHz 2-tone Test P _{out} =34.5dBm (S.C.L.)	-42	-45	-	dBc
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

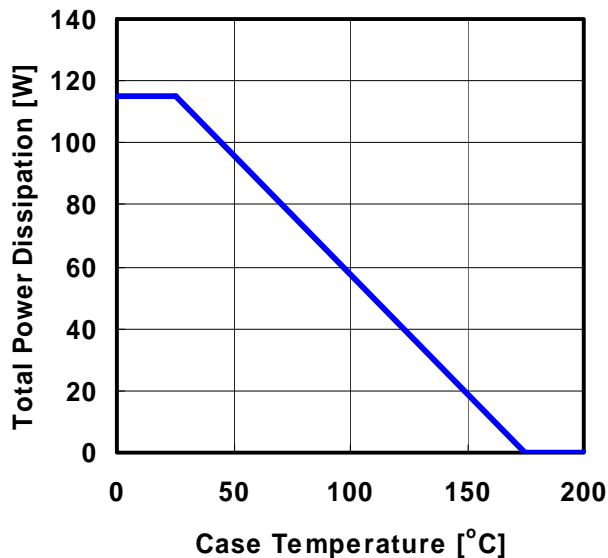
ESD	Class III	2000V ~
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Note : Based on EIAJ ED-4701 C-111A (C=100pF, R=1.5k Ω)

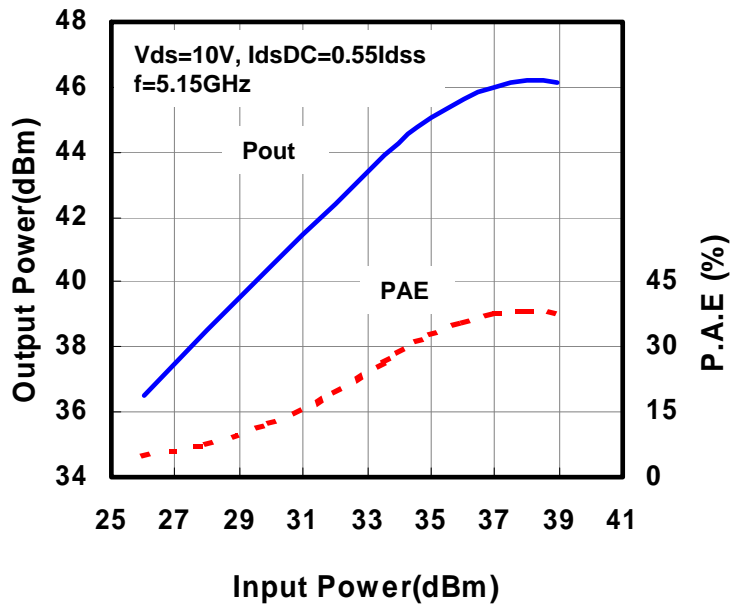
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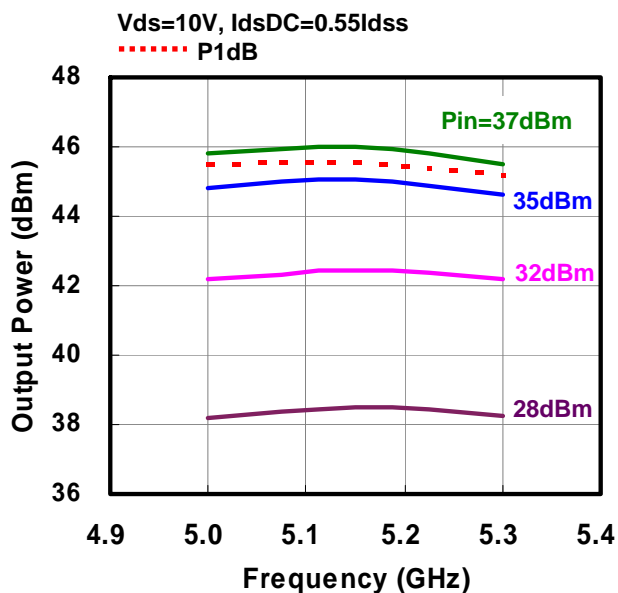
POWER DERATING CURVE



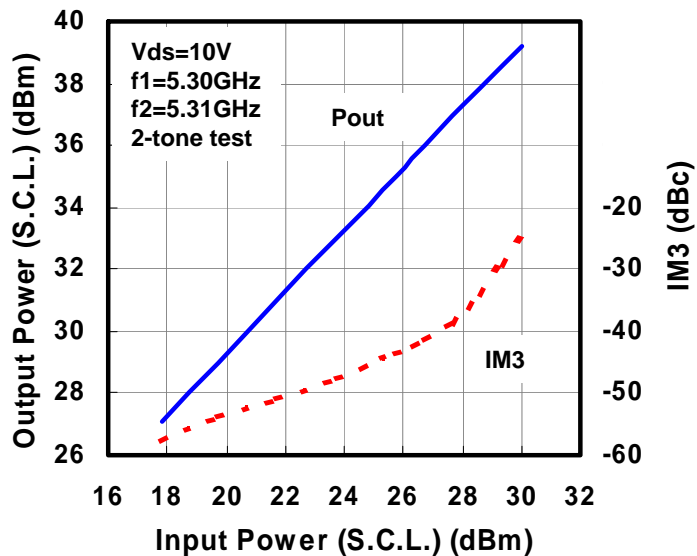
OUTPUT POWER & POWER ADDED EFFICIENCY vs INPUT POWER



OUTPUT POWER vs FREQUENCY

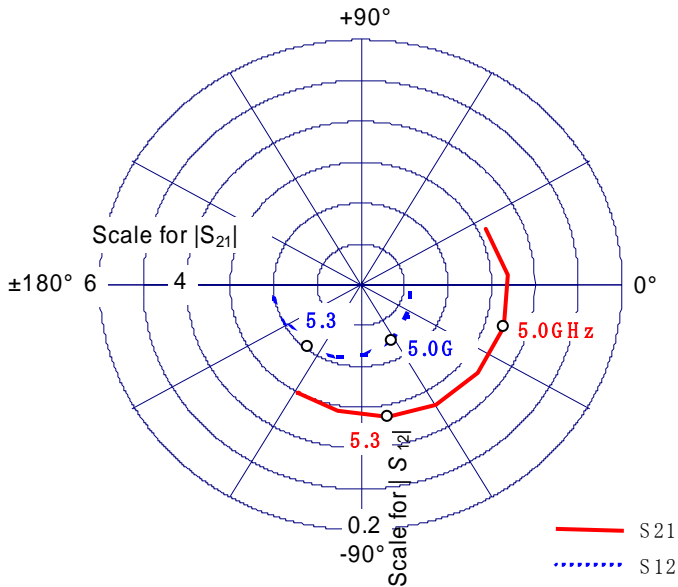
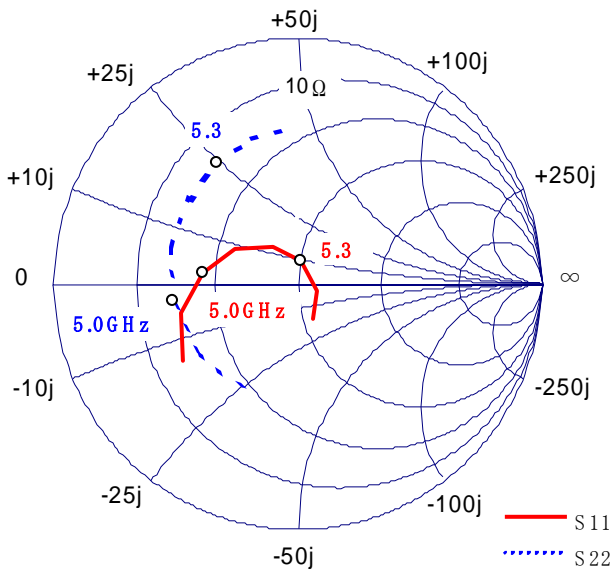


OUTPUT POWER & IM3 vs INPUT POWER



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■ S-PARAMETER



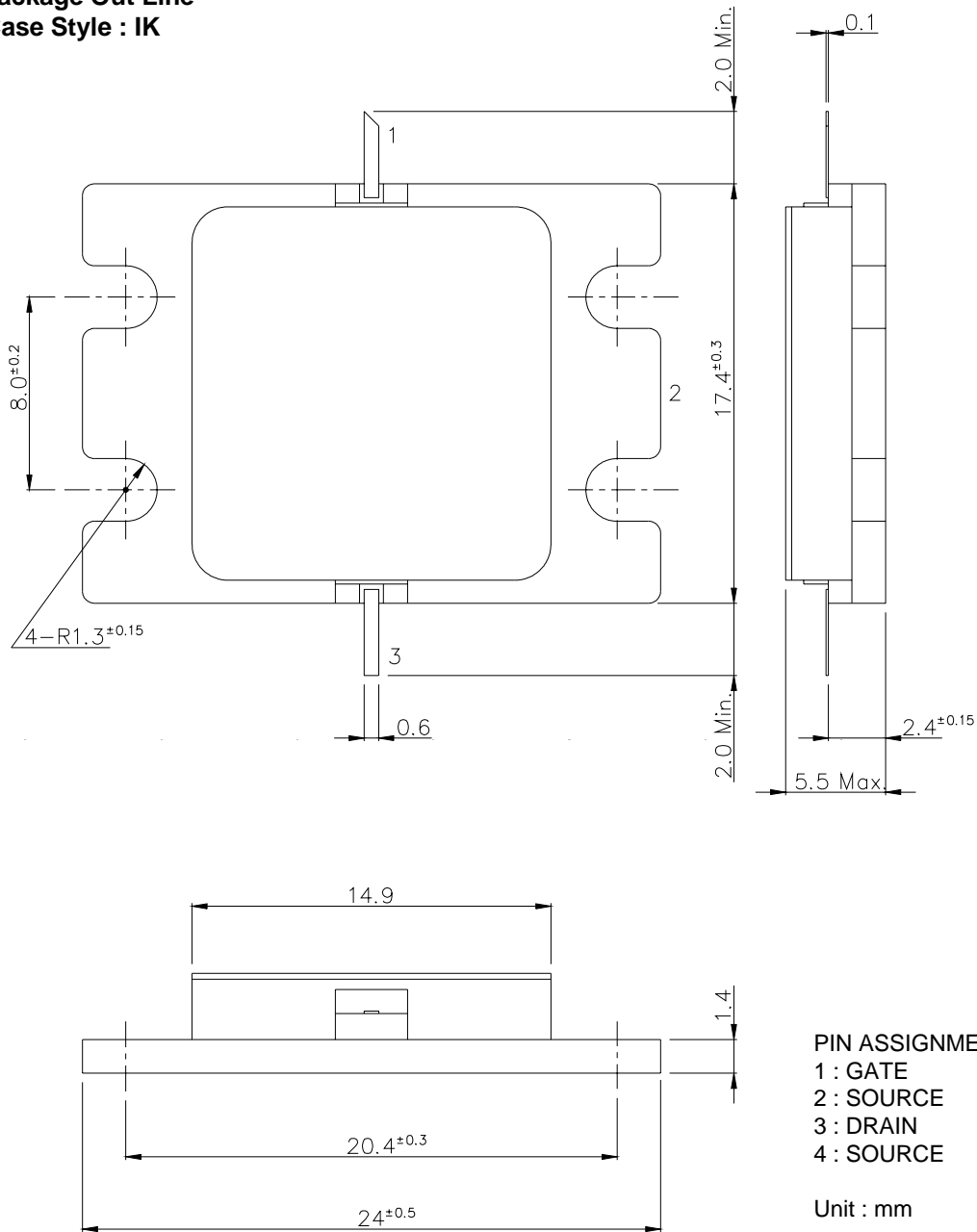
VDS=10.0V , IDS=0.55Idss

Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
4.8	0.563	-146.2	3.204	25.6	0.038	-10.4	0.485	-118.5
4.9	0.490	-166.4	3.365	4.4	0.045	-36.7	0.486	-146.4
5.0	0.394	173.6	3.453	-17.1	0.051	-62.3	0.515	-172.7
5.1	0.296	151.1	3.454	-38.6	0.057	-86.5	0.543	163.8
5.2	0.180	125.3	3.392	-59.6	0.062	-109.4	0.564	142.4
5.3	0.091	81.9	3.281	-79.5	0.064	-129.1	0.589	123.8
5.4	0.080	-19.9	3.146	-99.6	0.066	-149.9	0.618	107.6
5.5	0.155	-65.3	3.003	-118.9	0.068	-169.8	0.630	93.8

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■ Package Out Line
Case Style : IK



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CAUTION

Eudyna Devices Compound Semiconductor Products contain **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.

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