

FLM7785-45F

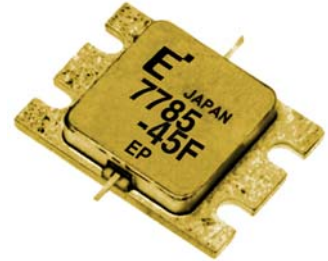
C-Band Internally Matched FET

FEATURES

- High Output Power: P1dB=46.5dBm(Typ.)
- High Gain: G1dB=7.0dB(Typ.)
- High PAE: η_{add} =32.5%(Typ.)
- Broad Band: 7.7~8.5GHz
- Impedance Matched Zin/Zout = 50 Ω
- Hermetically Sealed Package

DESCRIPTION

The FLM7785-45F 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	W
Storage Temperature	T _{stg}	-65 to +175	°C
Channel Temperature	T _{ch}	175	°C

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

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V _{DS}		≤10	V
Forward Gate Current	I _{GF}	R _G =10 Ω	≤52	mA
Reverse Gate Current	I _{GR}	R _G =10 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	-	24	-	A
Transconductance	g _m	V _{DS} =5V, I _{DS} =8.0A	-	16	-	S
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =960mA	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} = -960uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P1dB	V _{DS} =10V f=7.7 - 8.5 GHz I _{DS} (DC)=8.0A(typ.) Z _s =Z _L =50 Ω	46.0	46.5	-	dBm
Power Gain at 1dB G.C.P.	G1dB		6.0	7.0	-	dB
Drain Current	I _{dsr}		-	11	13	A
Power-added Efficiency	η_{add}		-	32.5	-	%
Gain Flatness	ΔG		-	-	1.6	dB
Thermal Resistance	R _{th}	Channel to Case	-	1.1	1.3	°C/W
Channel Temperature Rise	ΔT_{ch}	10V x I _{ds} (DC) x R _{th}	-	-	100	°C

CASE STYLE: IK

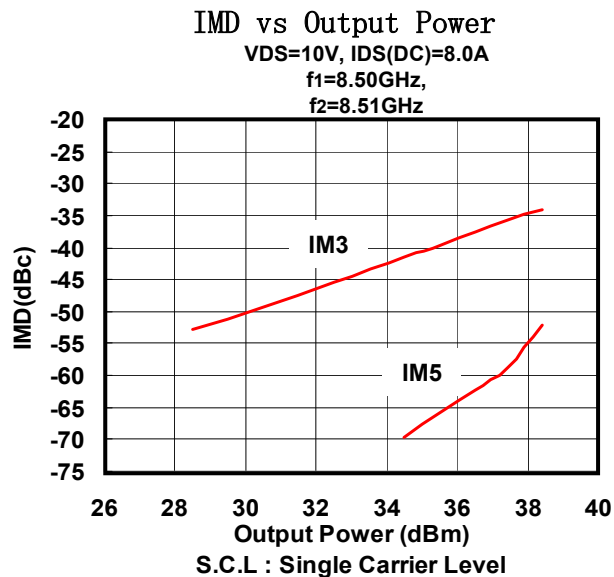
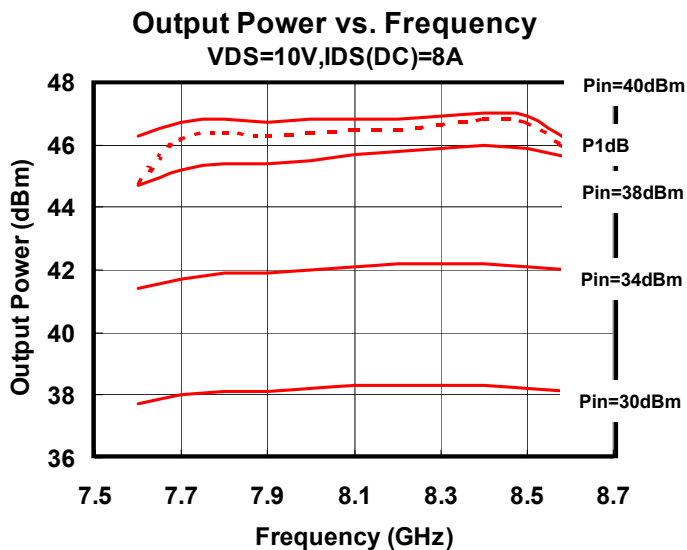
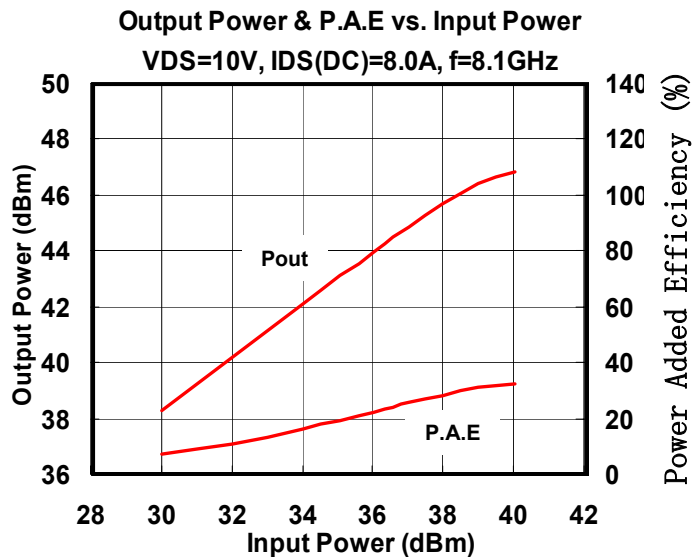
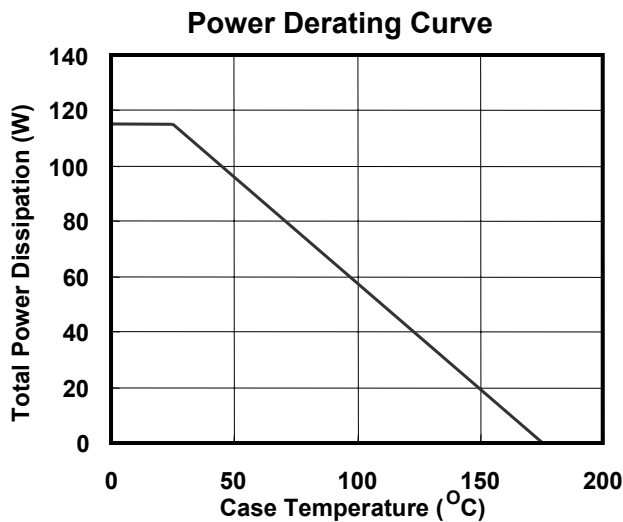
G.C.P.: Gain Compression Point

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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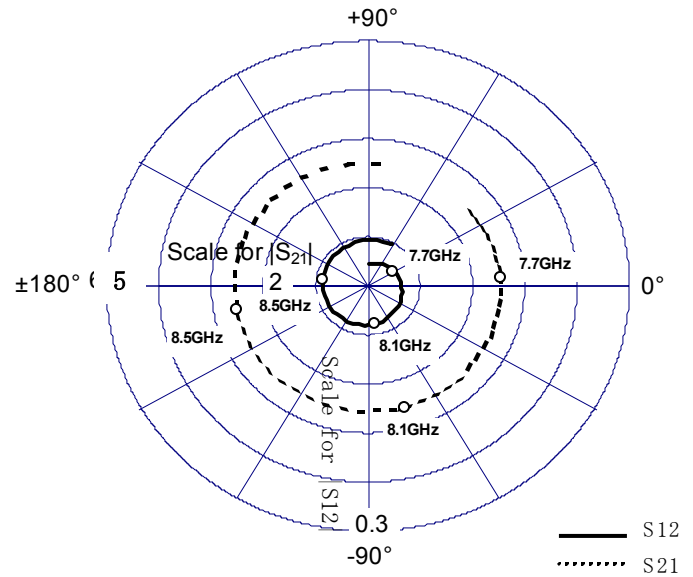
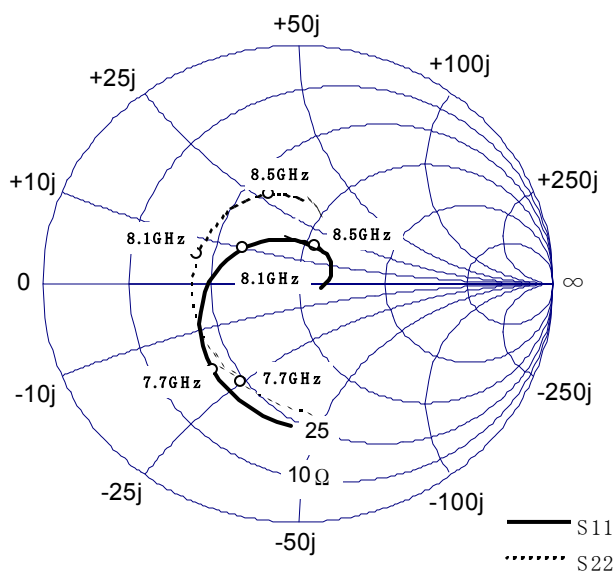
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S-PARAMETER



VDS=10V, IDS(DC)=8.0A

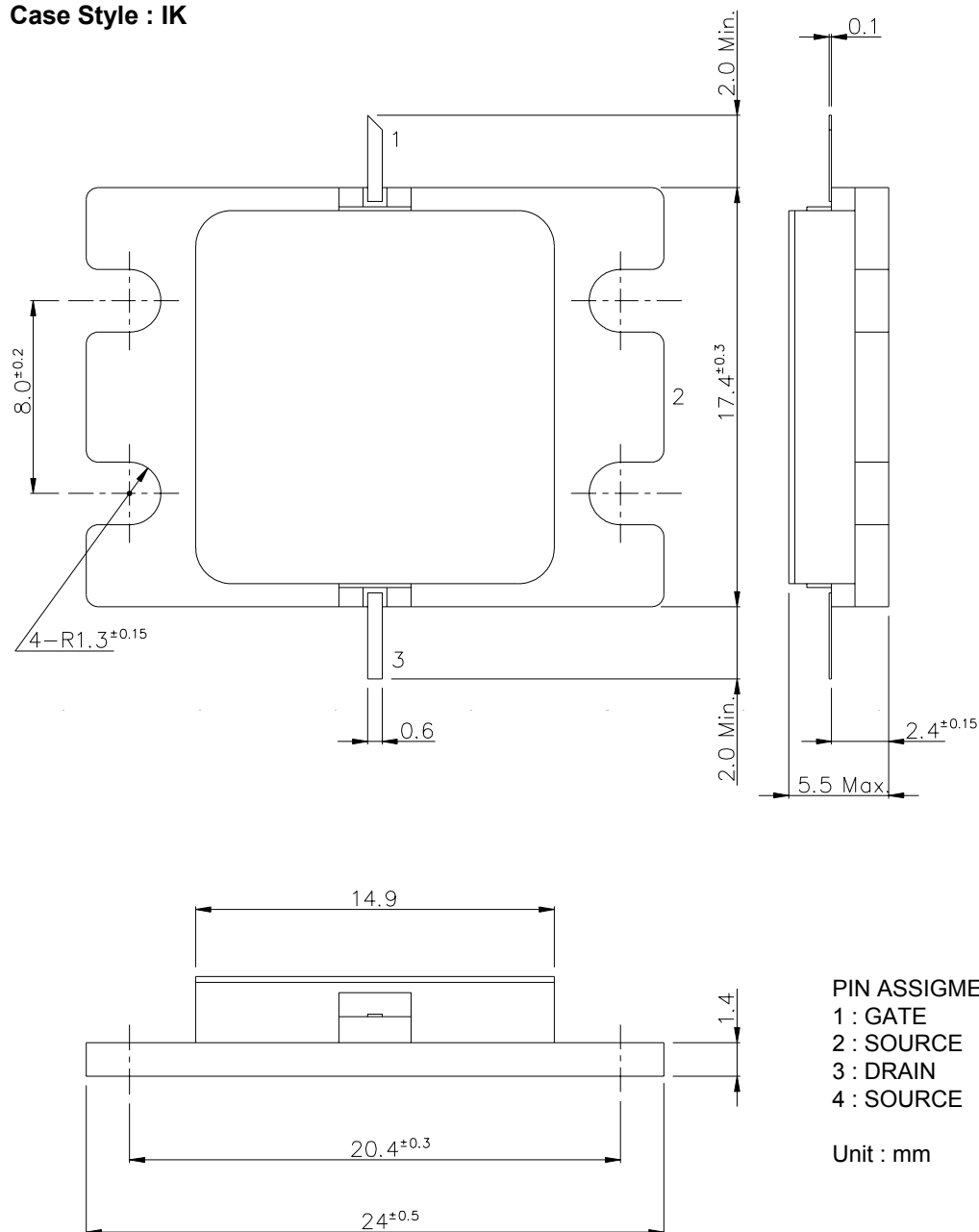
Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
7.5	0.59	-92.42	2.42	37.25	0.05	87.74	0.55	-83.48
7.6	0.54	-115.60	2.50	18.21	0.05	55.84	0.50	-102.39
7.7	0.49	-132.70	2.53	3.25	0.06	31.40	0.47	-118.61
7.8	0.44	-150.94	2.55	-12.24	0.06	6.43	0.44	-136.88
7.9	0.36	-175.21	2.58	-34.31	0.07	-27.13	0.42	-161.09
8.0	0.31	166.47	2.59	-51.85	0.07	-52.27	0.42	-178.81
8.1	0.26	145.07	2.57	-73.91	0.08	-80.04	0.41	161.62
8.2	0.21	122.80	2.56	-99.42	0.08	-110.35	0.41	143.05
8.3	0.19	104.80	2.55	-121.60	0.08	-134.88	0.41	129.89
8.4	0.18	87.15	2.55	-143.52	0.08	-159.01	0.40	118.61
8.5	0.17	66.26	2.54	-168.78	0.09	171.71	0.39	106.72
8.6	0.16	47.84	2.55	169.26	0.09	145.16	0.38	96.08
8.7	0.15	30.74	2.55	149.06	0.09	121.06	0.36	87.58
8.8	0.12	8.33	2.53	119.25	0.09	88.15	0.32	77.86

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■ Package Out Line

Case Style : IK



PIN ASSIGNMENT

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

Unit : mm

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