



FLM1415-8F

Ku-Band Internally Matched FET

FEATURES

- High Output Power: P1dB=39.0dBm(Typ.)
- High Gain: G1dB=5.0dB(Typ.)
- High PAE: η_{add} =25%(Typ.)
- Broad Band: 14.5 to 15.3GHz
- Impedance Matched Zin/Zout = 50ohm
- Hermetically Sealed Package

DESCRIPTION

The FLM1415-8F 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 Tc=25deg.C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	15	V
Gate-Source Voltage	V _{GS}	-5	V
Total Power Dissipation	P _T	42.8	W
Storage Temperature	T _{stg}	-65 to +175	deg.C
Channel Temperature	T _{ch}	175	deg.C

RECOMMENDED OPERATING CONDITION (Case Temperature Tc=25deg.C)

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V _{DS}		≤10	V
Forward Gate Current	I _{GF}	R _G =100 ohm	≤32.0	mA
Reverse Gate Current	I _{GR}	R _G =100 ohm	≥-4.4	mA
Channel Temperature	T _{ch}		150	deg.C

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25deg.C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I _{DSS}	V _{DS} =5V, V _{GS} =0V	-	3400	5200	mA
Trans conductance	g _m	V _{DS} =5V, I _{DS} =2200mA	-	3400	-	mS
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =170mA	-0.5	-1.5	-3.0	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-170uA	-5.0	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V I _{DS} DC=0.65 I _{DSS} (typ.) f= 14.5 to 15.3 GHz Z _S =Z _L =50 ohm	38.0	39.0	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}		4.0	5.0	-	dB
Drain Current	I _{DSR}		-	2200	2600	A
Power-added Efficiency	η _{add}		-	25	-	%
Gain Flatness	ΔG		-	-	1.2	dB
Thermal Resistance	R _{th}	Channel to Case	-	3.0	3.5	deg.C/W
Channel Temperature Rise	ΔT _{ch}	10V x I _{DSR} X R _{th}	-	-	80	deg.C

CASE STYLE : IA

G.C.P.: Gain Compression Point

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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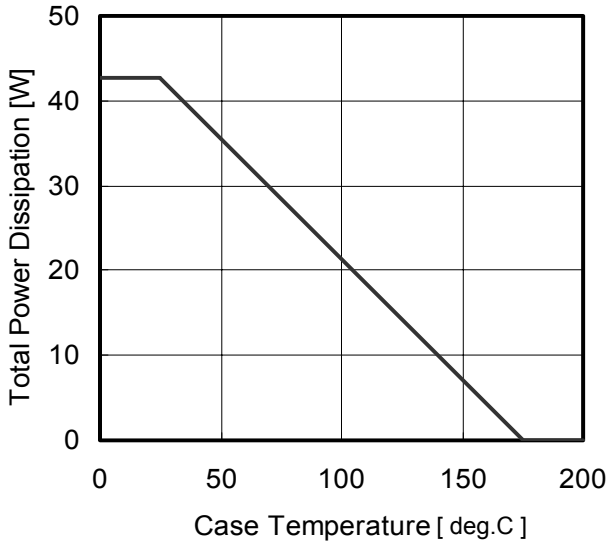




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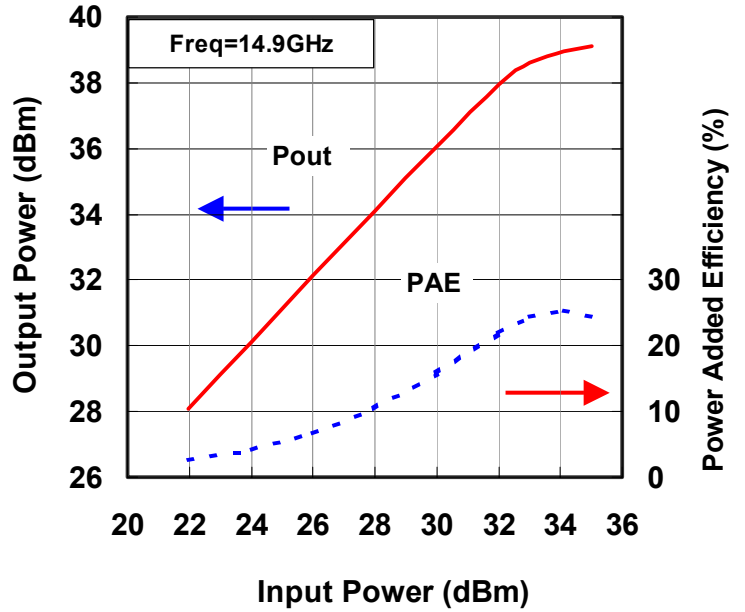
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POWER DERATING CURVE



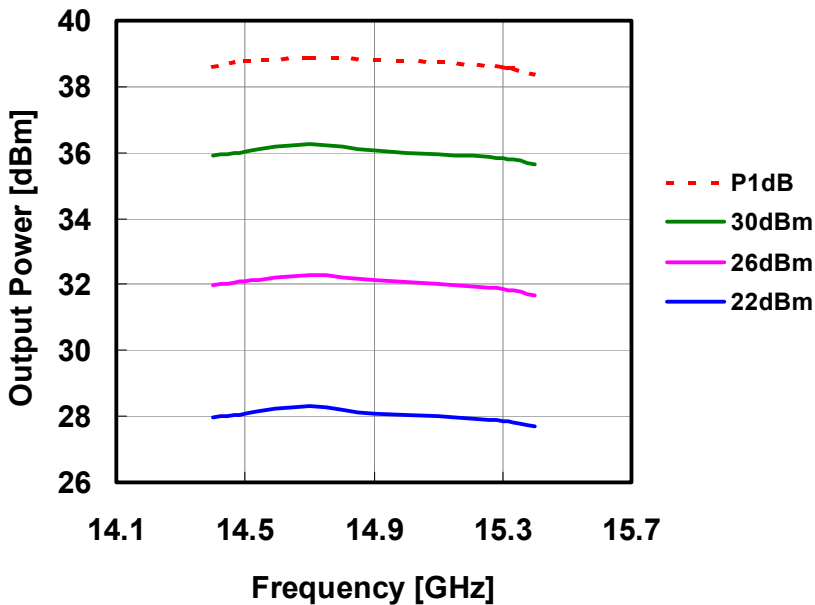
OUTPUT POWER , EFFICIENCY vs. INPUT POWER

Vds=10V, IdsDC=0.65 Idss

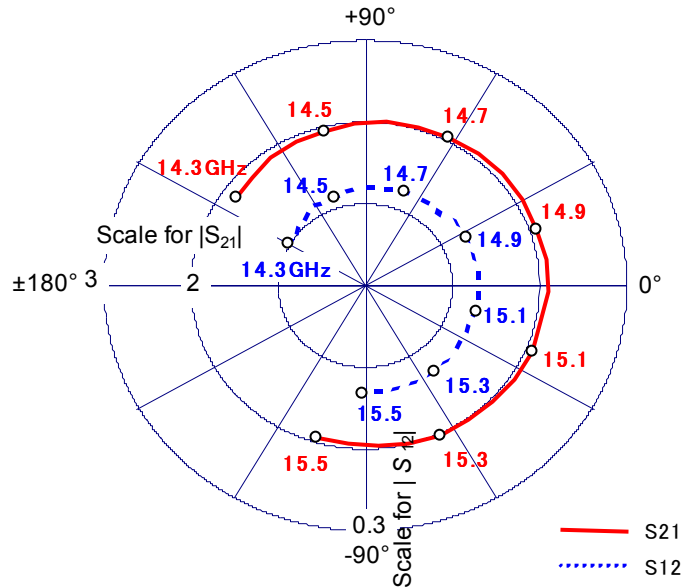
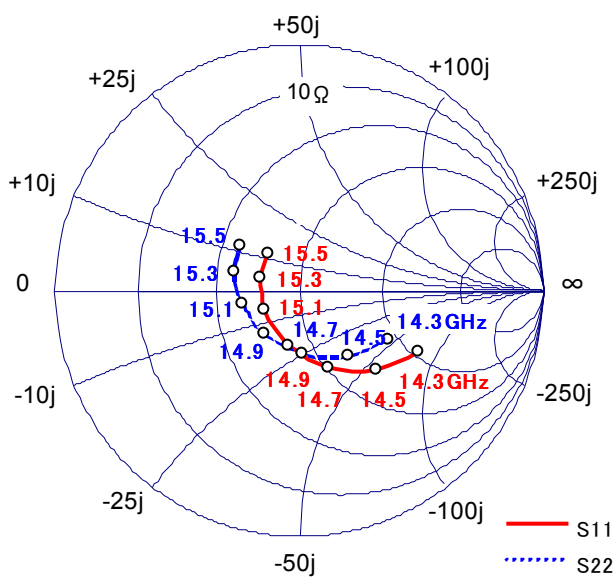


OUTPUT POWER vs. FREQUENCY

Vds=10V, Ids=0.65IDSS



■ S-PARAMETER



VDS=10.0V , IDS=0.65 IDSS

Freq. (GHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
14.3	0.543	-27.1	1.825	144.1	0.103	149.8	0.412	-28.4
14.4	0.498	-35.7	1.905	124.7	0.109	129.9	0.372	-39.9
14.5	0.450	-45.7	1.948	104.1	0.114	108.6	0.334	-53.4
14.6	0.395	-56.3	2.014	83.2	0.120	88.9	0.295	-68.8
14.7	0.338	-68.8	2.047	62.3	0.123	68.4	0.260	-87.0
14.8	0.280	-83.1	2.079	40.8	0.126	47.7	0.236	-107.4
14.9	0.225	-101.4	2.088	19.5	0.129	26.6	0.223	-129.6
15.0	0.182	-123.2	2.091	-2.0	0.130	6.4	0.227	-150.4
15.1	0.161	-150.0	2.079	-22.9	0.130	-13.6	0.241	-168.2
15.2	0.156	-175.7	2.040	-44.0	0.131	-33.4	0.260	176.7
15.3	0.167	160.8	2.014	-64.9	0.131	-53.1	0.277	164.6
15.4	0.182	143.2	1.969	-85.7	0.131	-72.7	0.292	153.8
15.5	0.198	129.0	1.939	-106.7	0.132	-91.9	0.303	143.7

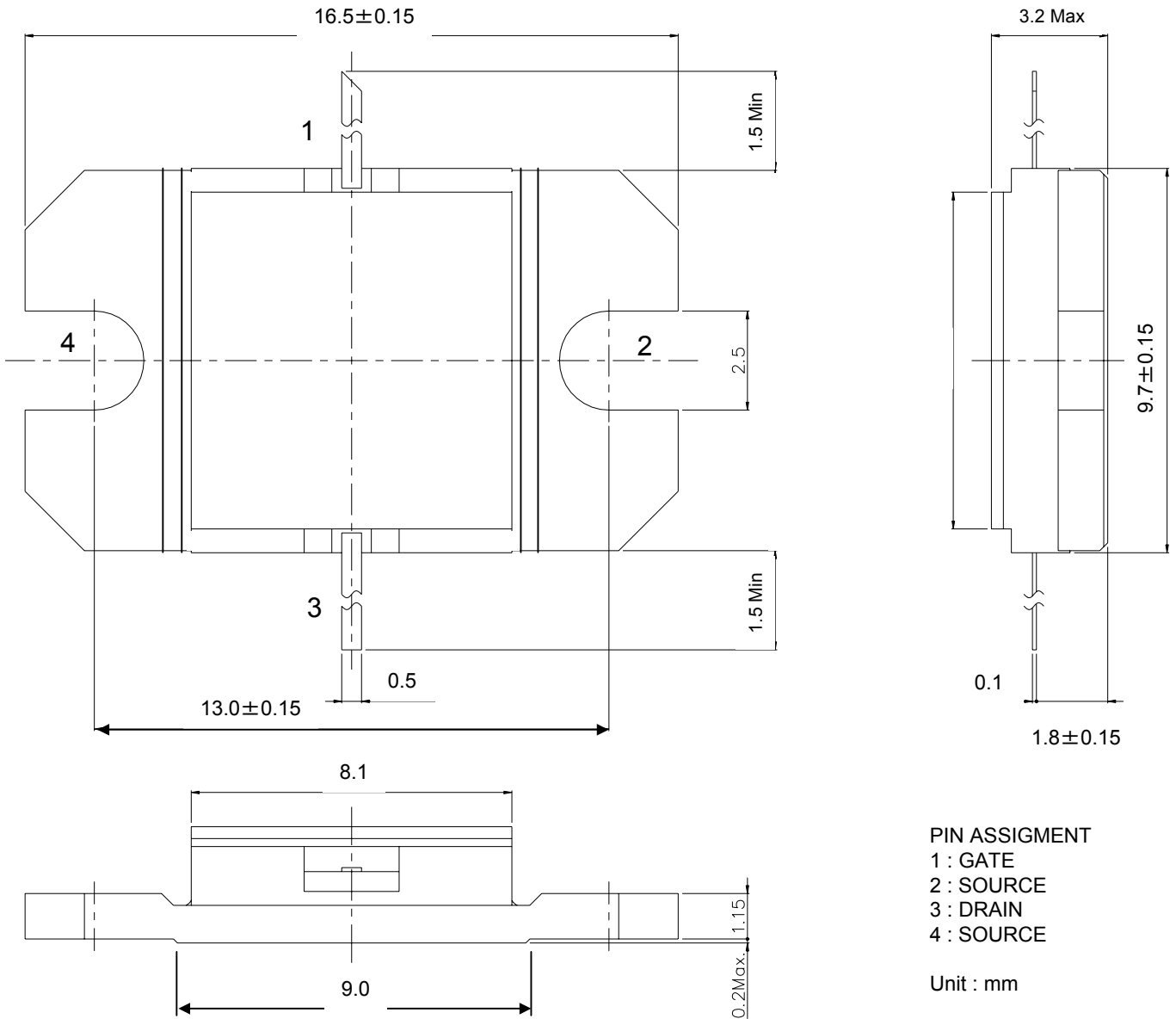


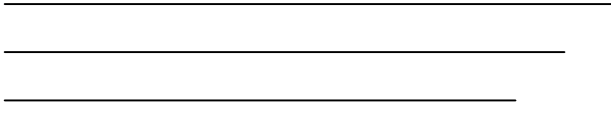
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Package Outline

CASE STYLE: IA





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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.