MGF0912A

L & S BAND GaAs FET [non – matched]

DESCRIPTION

The MGF0912A GaAs FET with an N-channel schottky Gate, is designed for use L/S band amplifiers.

FEATURES

- High output power
  Po=41.5dBm(TYP.) @f=1.9GHz,Pin=33dBm
- High power gain
  Gp=10.5dB(TYP.) @f=1.9GHz
- High power added efficiency
  ηadd=38%(TYP.) @f=1.9GHz,Pin=33dBm
- Hermetic Package

APPLICATION

- For L/S Band power amplifiers

QUALITY

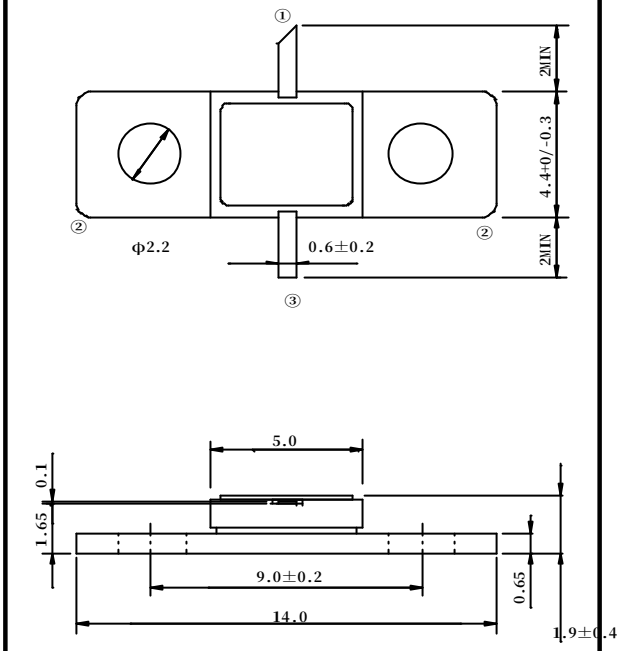
- GG

RECOMMENDED BIAS CONDITIONS

- Vds=10V
- Ids=2.6A
- Rg=50Ω

Delivery Tray

OUTLINE DRAWING Unit : millimeters



GF-7

(1) GATE
(2) SOURCE (FLANGE)
(3) DRAIN

Absolute maximum ratings (Ta=25°C)

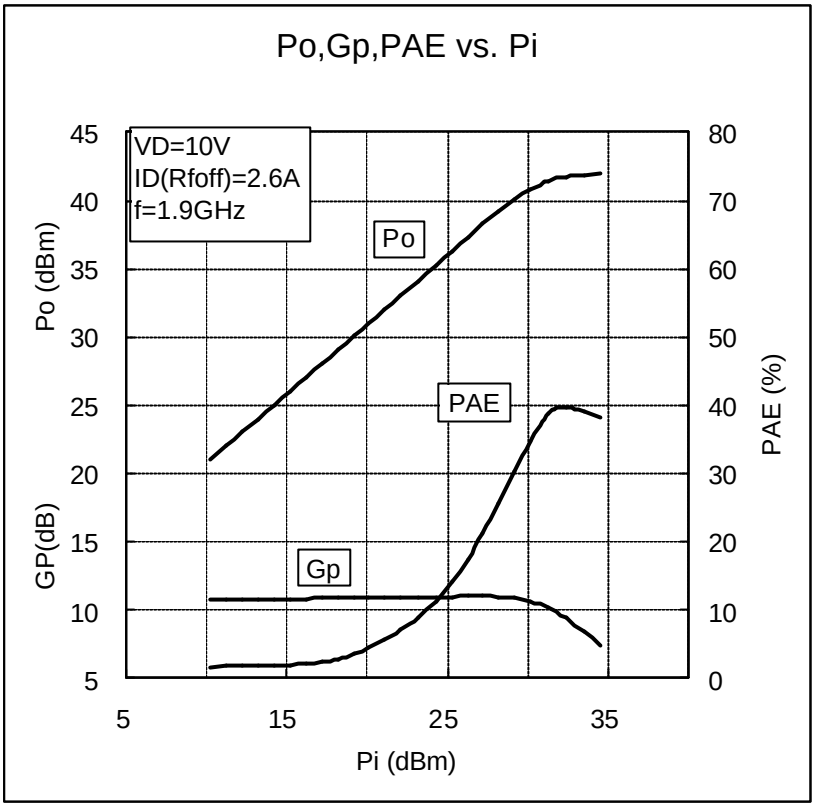
Symbol	Parameter	Ratings	Unit
VGSO	Gate to source breakdown voltage	-15	V
VGDO	Gate to drain breakdown voltage	-15	V
ID	Drain current	10	A
IGR	Reverse gate current	-30	mA
IGF	Forward gate current	63	mA
PT	Total power dissipation	53.6	W
Tch	Cannel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

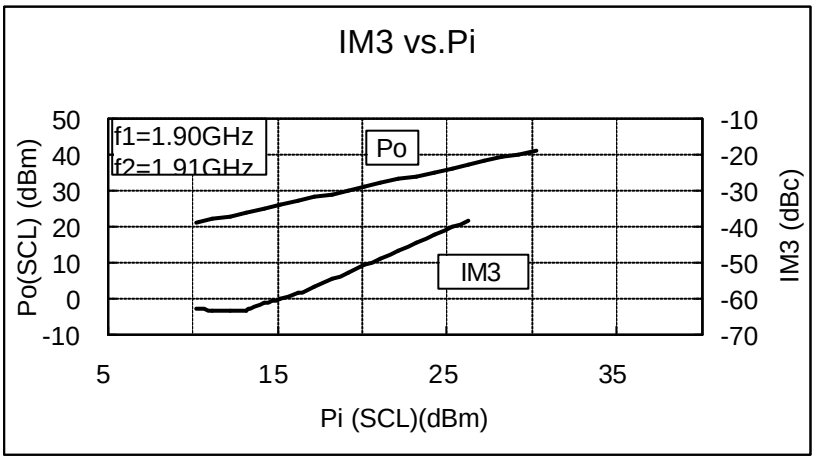
Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V,VGS=0V	-	--	10	A
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=20mA	-2.0	-	-5.0	V
gm	Transconductance	VDS=3V,ID=2.6A	-	3	-	S
Po	Output power	VDS=10V,ID=2.6A,f=1.9GHz	40.5	41.5	-	dBm
ηadd	Power added Efficiency	Pin=33dBm	-	38	-	%
GLP	Linear Power Gain	VDS=10V,ID=2.6A,f=1.9GHz	9.5	10.5	-	dB
Rth(ch-c)	Thermal Resistance *1	ΔVf Method	-	2.3	3	°C/W

*1:Channel to case / Above parameters, ratings, limits are subject to change.

MGF0912A TYPICAL CHARACTERISTICS





MGF0912A S PARAMETERS (Ta=25°C,VD=10V,ID=2.6A)

freq	S11		S21		S12		S22		K	MAG/MSG
(MHz)	MAG	Ang(deg)	MAG	Ang(deg)	MAG	Ang(deg)	MAG	Ang(deg)		(dB)
600	0.973	-169.11	1.885	88.28	0.008	56.40	0.889	177.56	0.99	23.59
800	0.973	-173.29	1.481	83.73	0.009	56.96	0.889	176.12	1.05	20.56
1000	0.972	-176.33	1.183	79.70	0.010	57.05	0.888	174.92	1.13	18.47
1200	0.972	-178.59	0.968	76.03	0.011	56.95	0.887	173.85	1.22	16.75
1400	0.971	179.63	0.818	72.61	0.011	56.87	0.885	172.81	1.31	15.30
1600	0.970	178.09	0.717	69.30	0.012	56.93	0.884	171.72	1.39	14.12
1800	0.969	176.58	0.650	66.02	0.013	57.20	0.882	170.52	1.45	13.16
2000	0.968	174.95	0.606	62.68	0.014	57.66	0.881	169.15	1.47	12.38
2200	0.967	173.08	0.574	59.21	0.015	58.24	0.880	167.56	1.46	11.70
2400	0.966	170.91	0.548	55.57	0.017	58.78	0.878	165.75	1.45	11.05
2600	0.965	168.42	0.521	51.73	0.020	59.06	0.877	163.68	1.42	10.39
2800	0.964	165.64	0.493	47.66	0.022	58.77	0.876	161.38	1.40	9.68
3000	0.963	162.65	0.461	43.37	0.025	57.56	0.875	158.86	1.38	8.94

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