MGF0916A

L & S BAND GaAs FET [SMD non - matched]

DESCRIPTION

The MGF0916A GaAs FET with an N-channel schottky Gate, is designed for use UHF band amplifiers.

FEATURES

- High output power
  Po=23dBm(TYP.) @f=1.9GHz,Pin=5dBm
- High power gain
  Gp=19dB(TYP.) @f=1.9GHz
- High power added efficiency
  ηadd=30%(TYP.) @f=1.9GHz,Pin=5dBm
- Hermetic Package

APPLICATION

- For UHF Band power amplifiers

QUALITY

- GG

RECOMMENDED BIAS CONDITIONS

- Vds=6V • Ids=100mA • Rg=1kΩ

Delivery **-01:**Tape & Reel(1K), **-03:**Trai(50pcs)

Fig.1

Absolute maximum ratings (Ta=25°C)

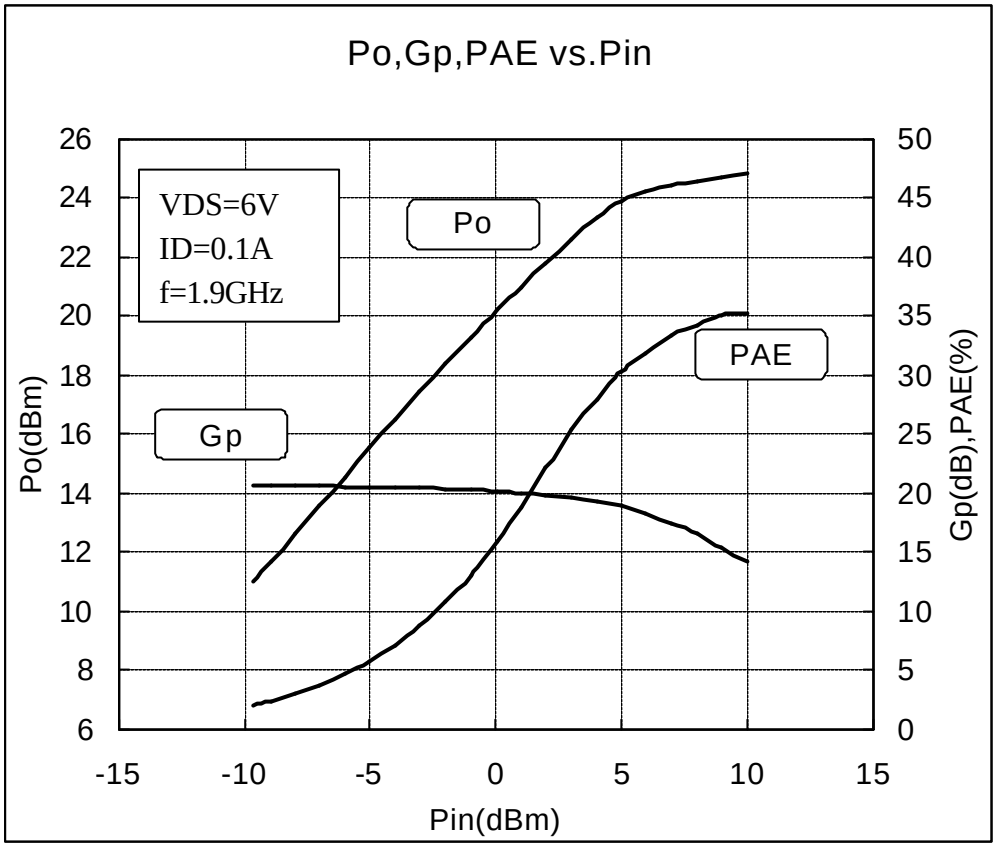
Symbol	Parameter	Ratings	Unit
VGSO	Gate to source breakdown voltage	-8	V
VGDO	Gate to drain breakdown voltage	-8	V
ID	Drain current	250	mA
IGR	Reverse gate current	-0.6	mA
IGF	Forward gate current	1.5	mA
PT	Total power dissipation	1.5	W
Tch	Cannel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

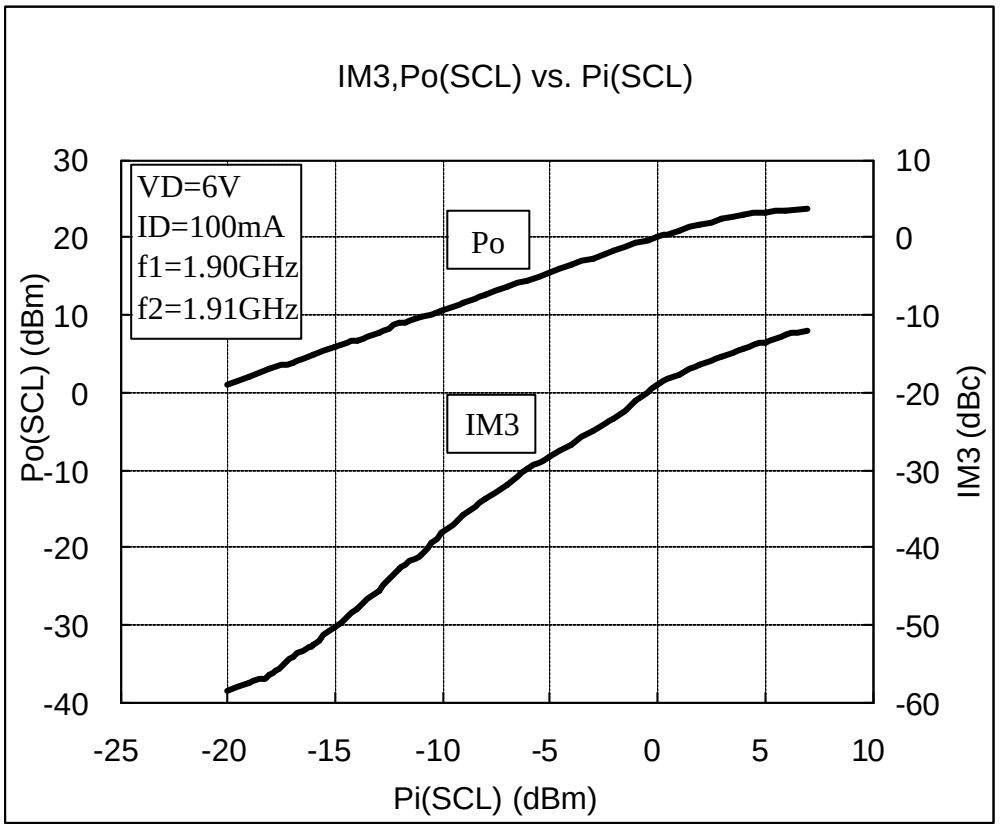
Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V,VGS=0V	150	200	250	mA
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=0.1mA	-1.5	-	-4.5	V
gm	Transconductance	VDS=3V,ID=100mA	-	90	-	mS
Po	Output power	VDS=6V,ID=100mA,f=1.9GHz	-	23	-	dBm
ηadd	Power added Efficiency	Pin=5dBm	-	30	-	%
GLP	Linear Power Gain	VDS=6V,ID=100mA,f=1.9GHz	-	19	-	dB
NF	Noise figure		-	1.0	-	dB
Rth(ch-c)	Thermal Resistance *1	ΔVf Method	-	70	100	°C/W

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

MGF0916A TYPICAL CHARACTERISTICS





MGF0916A S PARAMETERS (Ta=25°C, VDS=6V, ID=100mA, Reference Plane see Fig.1)

freq.	S11		S21		S12		S22		K	MAG/MSG
(MHz)	(mag)	(ang)	(mag)	(ang)	(mag)	(ang)	(mag)	(ang)		(dB)
600	0.954	-40.32	7.263	145.11	0.016	60.06	0.477	-37.47	0.25	26.57
1000	0.915	-62.48	6.256	126.36	0.023	45.59	0.509	-57.48	0.32	24.35
1400	0.887	-80.56	5.395	110.17	0.027	32.76	0.543	-73.42	0.37	23.01
1800	0.866	-95.15	4.664	96.15	0.029	21.52	0.578	-86.07	0.44	22.06
2200	0.852	-106.84	4.047	83.93	0.030	11.83	0.613	-96.10	0.51	21.30
2600	0.844	-116.18	3.529	73.20	0.030	3.59	0.646	-104.09	0.60	20.71
3000	0.829	-123.68	3.099	63.67	0.030	-3.30	0.679	-110.51	0.72	20.14
3400	0.822	-129.83	2.743	55.09	0.029	-8.97	0.708	-115.77	0.84	19.76
3800	0.813	-135.06	2.452	47.23	0.029	-13.57	0.736	-120.19	0.93	19.27
4200	0.806	-139.74	2.215	39.92	0.028	-17.24	0.760	-124.02	1.05	17.60
4600	0.802	-144.18	2.025	32.99	0.028	-20.15	0.782	-127.46	1.09	16.73
5000	0.792	-148.63	1.874	26.30	0.028	-22.48	0.801	-130.64	1.16	15.86
5400	0.779	-153.25	1.755	19.72	0.029	-24.39	0.817	-133.65	1.17	15.29
5800	0.763	-158.12	1.661	13.18	0.030	-26.06	0.831	-136.55	1.19	14.78
6200	0.741	-163.24	1.589	6.57	0.031	-27.67	0.843	-139.35	1.22	14.24
6600	0.714	-168.50	1.533	-0.16	0.033	-29.37	0.853	-142.06	1.23	13.79
7000	0.688	-173.69	1.490	-7.07	0.036	-31.33	0.861	-144.65	1.19	13.50
7400	0.660	-178.49	1.457	-14.20	0.038	-33.68	0.868	-147.09	1.21	13.08
7800	0.628	176.97	1.430	-21.60	0.041	-36.55	0.874	-149.36	1.21	12.67
8200	0.590	172.29	1.409	-29.29	0.044	-40.05	0.879	-151.43	1.23	12.17
8600	0.540	167.52	1.391	-37.32	0.047	-44.27	0.883	-153.28	1.27	11.56
9000	0.477	162.13	1.374	-45.70	0.050	-49.26	0.886	-154.93	1.33	10.94
9400	0.400	155.63	1.358	-54.48	0.054	-55.06	0.888	-156.42	1.36	10.41
9800	0.311	146.74	1.342	-63.70	0.057	-61.67	0.888	-157.81	1.40	9.95
10200	0.217	133.83	1.325	-73.41	0.061	-69.05	0.886	-159.22	1.40	9.62
10600	0.126	110.51	1.306	-83.66	0.065	-77.14	0.880	-160.83	1.39	9.31
11000	0.073	51.97	1.286	-94.52	0.070	-85.81	0.871	-162.85	1.36	9.08
11400	0.113	-5.75	1.262	-106.08	0.075	-94.92	0.857	-165.57	1.35	8.73
11800	0.188	-27.30	1.236	-118.45	0.081	-104.26	0.836	-169.37	1.36	8.26
12200	0.260	-36.27	1.206	-131.74	0.088	-113.56	0.806	-174.68	1.42	7.52

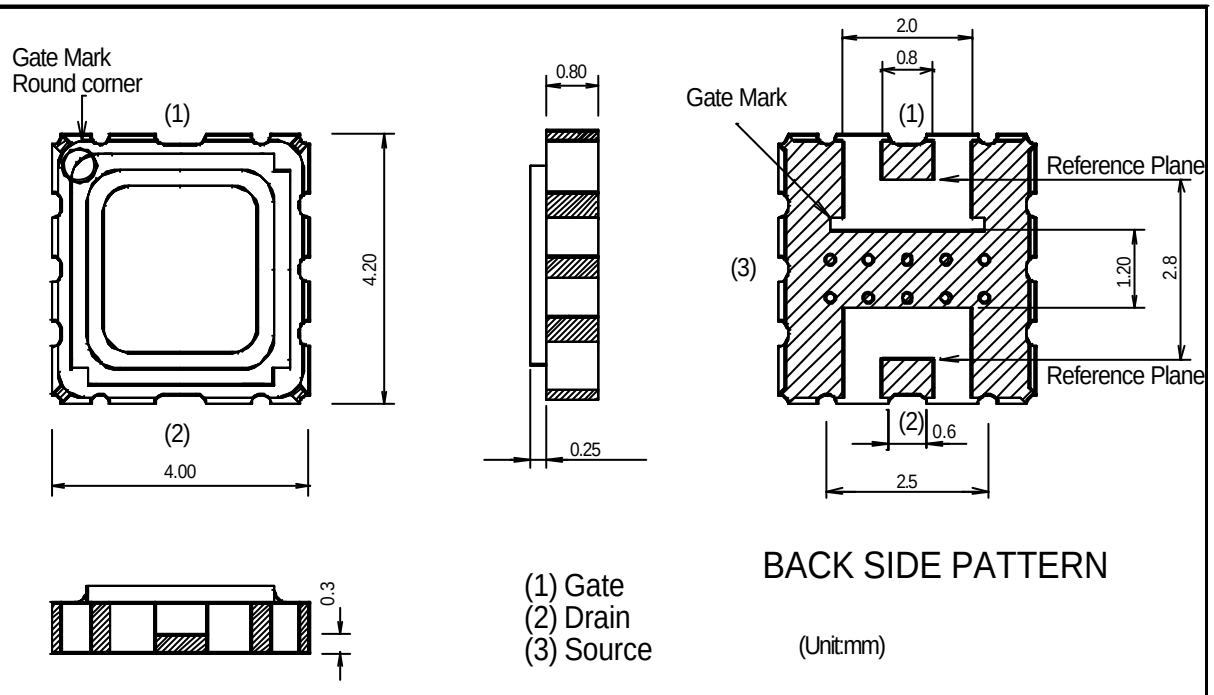


Fig.1 OUTLINE DRAWING

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