MGF0913A

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

DESCRIPTION

The MGF0913A GaAs FET with an N-channel schottky Gate, is designed for use UHF band amplifiers.

FEATURES

- High output power
  Po=31dBm(TYP.) @f=1.9GHz,Pin=18dBm
- High power gain
  Gp=13dB(TYP.) @f=1.9GHz
- High power added efficiency
  ηadd=48%(TYP.) @f=1.9GHz,Pin=18dBm
- Hermetic Package

APPLICATION

- For UHF Band power amplifiers

QUALITY

- GG

RECOMMENDED BIAS CONDITIONS

- Vds=10V
- Ids=200mA
- Rg=500Ω

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

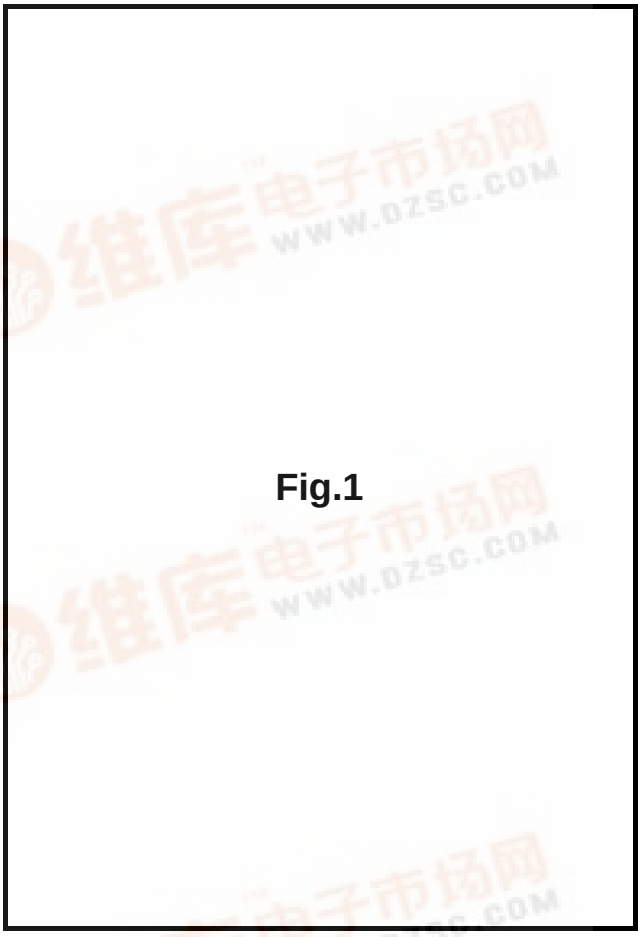


Fig.1

Absolute maximum ratings (Ta=25°C)

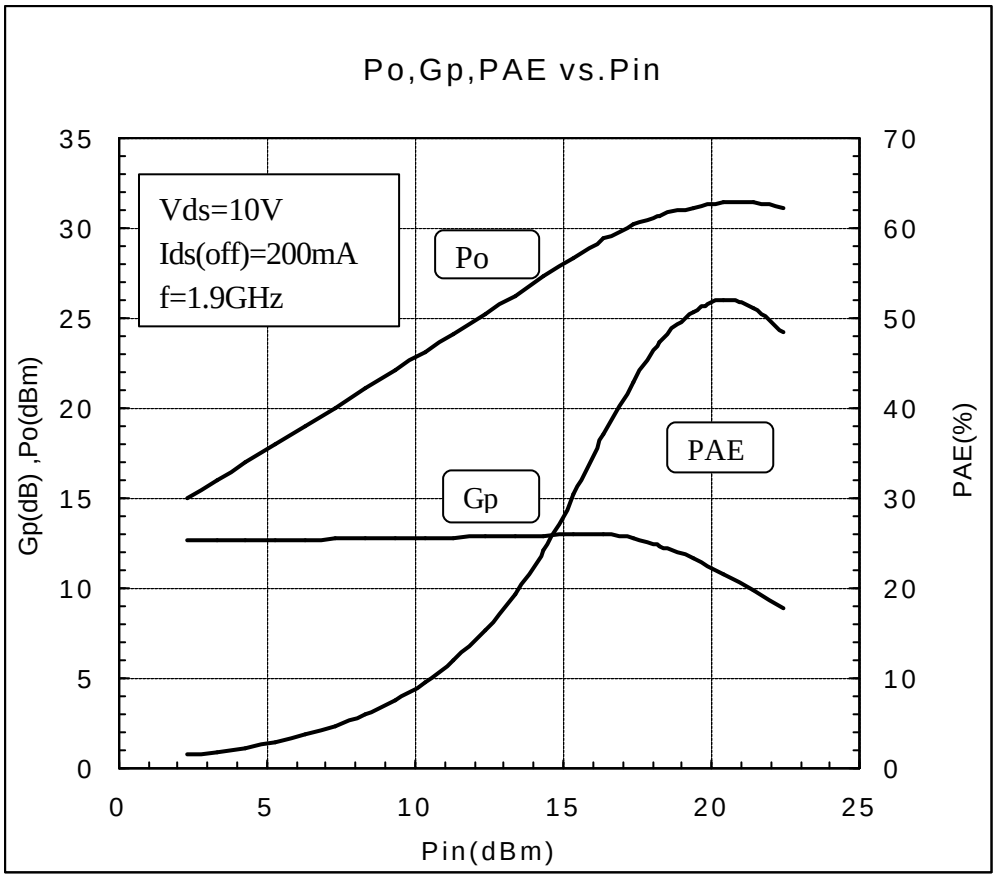
Symbol	Parameter	Ratings	Unit
VGSO	Gate to source breakdown voltage	-15	V
VGDO	Gate to drain breakdown voltage	-15	V
ID	Drain current	800	mA
IGR	Reverse gate current	-2.5	mA
IGF	Forward gate current	5.4	mA
PT	Total power dissipation	5.0	W
Tch	Cannel temperature	175	°C
Tstg	Storage temperature	-65 to +175	°C

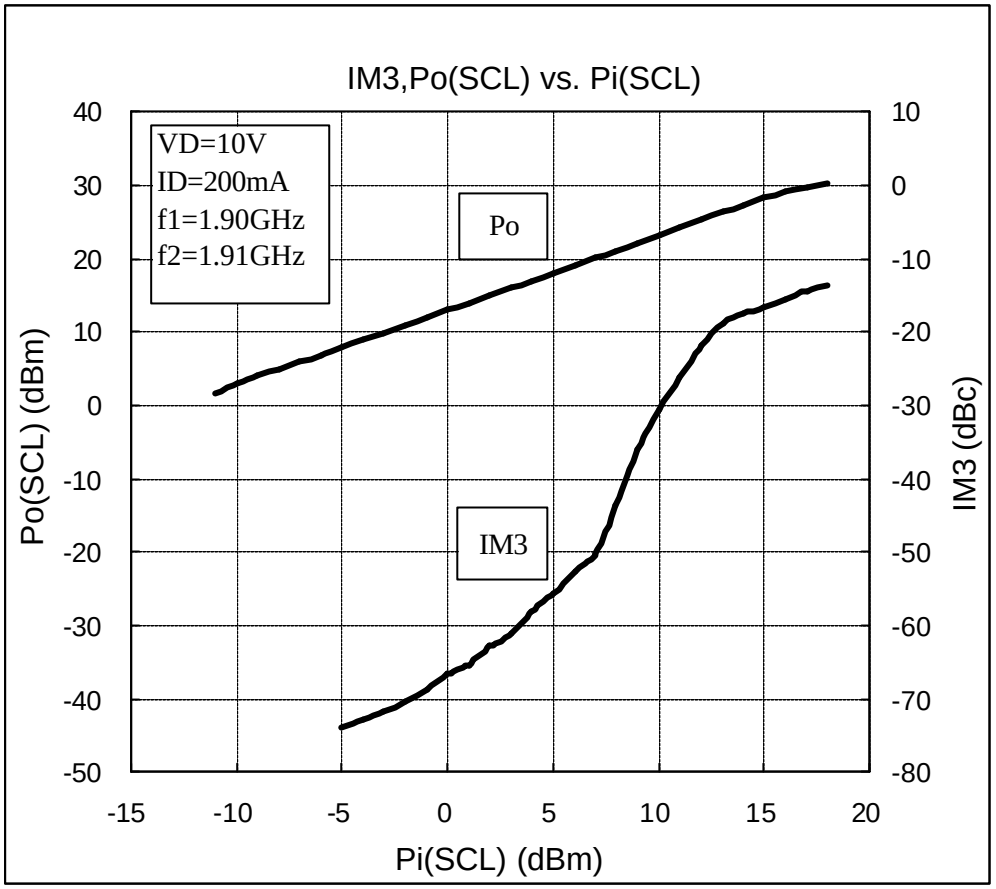
Electrical characteristics (Ta=25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IDSS	Saturated drain current	VDS=3V,VGS=0V	400	550	800	mA
VGS(off)	Gate to source cut-off voltage	VDS=3V,ID=2.5mA	-1	-3	-5	V
gm	Transconductance	VDS=3V,ID=300mA	-	200	-	mS
Po	Output power	VDS=10V,ID=200mA,f=1.9GHz	29.5	31	-	dBm
ηadd	Power added Efficiency	Pin=18dBm	-	48	-	%
GLP	Linear Power Gain	VDS=10V,ID=200mA,f=1.9GHz	11	13	-	dB
NF	Noise figure		-	2.0	-	dB
Rth(ch-c)	Thermal Resistance *1	ΔVf Method	-	20	30	°C/W

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

MGF0913A TYPICAL CHARACTERISTICS





MGF0913A S PARAMETERS (Ta=25°C,VD=10V,ID=200mA, Reference Plane see Fig.1)

freq.	S11		S21		S12		S22		K	MAG/MSG
(MHz)	(mag)	(ang)	(mag)	(ang)	(mag)	(ang)	(mag)	(ang)		(dB)
600	0.846	-99.11	7.877	113.45	0.032	41.63	0.241	-112.66	0.45	23.91
1000	0.795	-129.78	5.523	91.49	0.038	29.94	0.296	-126.47	0.68	21.62
1400	0.758	-147.40	4.105	74.02	0.043	23.18	0.335	-132.57	0.92	19.80
1800	0.733	-159.19	3.265	59.68	0.046	19.12	0.372	-135.16	1.14	16.26
2200	0.713	-168.29	2.755	47.38	0.049	16.24	0.412	-136.52	1.29	14.27
2600	0.696	-175.89	2.413	36.27	0.053	13.56	0.456	-137.70	1.34	13.08
3000	0.675	177.02	2.150	25.69	0.057	10.50	0.500	-138.96	1.39	12.05
3400	0.648	170.52	1.930	15.19	0.063	6.75	0.537	-140.26	1.41	11.04
3800	0.611	165.48	1.751	4.44	0.070	2.20	0.565	-141.48	1.47	9.91
4200	0.563	159.35	1.626	-6.74	0.079	-3.15	0.582	-142.64	1.53	8.84
4600	0.504	150.60	1.566	-18.46	0.091	-9.28	0.592	-143.97	1.53	8.08
5000	0.437	138.53	1.563	-30.74	0.104	-16.17	0.606	-145.86	1.45	7.78
5400	0.367	123.05	1.571	-43.58	0.118	-23.85	0.614	-148.72	1.38	7.57
5800	0.304	104.53	1.507	-56.94	0.134	-32.41	0.616	-152.68	1.35	6.95
6200	0.260	83.65	1.422	-70.83	0.151	-41.99	0.613	-157.29	1.34	6.26
6600	0.252	61.24	1.370	-85.27	0.168	-52.79	0.599	-160.95	1.30	5.82
7000	0.298	38.21	1.336	-100.37	0.185	-65.01	0.568	-161.71	1.25	5.60
7400	0.376	15.46	1.290	-116.34	0.202	-78.79	0.521	-160.65	1.20	5.32
7800	0.486	-6.26	1.213	-133.51	0.217	-94.17	0.469	-154.18	1.18	4.94
8200	0.622	-26.32	1.103	-152.37	0.227	-110.98	0.444	-141.91	1.13	4.65
8600	0.762	-44.27	0.963	-173.58	0.221	-128.75	0.503	-128.51	1.09	4.60
9000	0.864	-59.90	0.804	167.54	0.201	-146.58	0.605	-122.63	1.06	4.56
9400	0.931	-73.16	0.640	150.86	0.175	-163.02	0.708	-124.22	1.01	5.05
9800	0.969	-84.19	0.487	136.98	0.150	-175.89	0.789	-128.49	0.95	5.11
10200	0.985	-93.24	0.359	125.65	0.129	173.23	0.844	-134.30	0.92	4.45
10600	0.988	-100.63	0.264	116.52	0.112	163.85	0.877	-140.83	0.93	3.72
11000	0.986	-106.66	0.207	109.19	0.099	155.65	0.898	-147.37	0.97	3.20
11400	0.984	-111.48	0.179	103.32	0.089	148.28	0.916	-153.31	0.99	3.03
11800	0.983	-115.02	0.161	98.69	0.080	141.70	0.933	-158.19	1.00	3.04
12200	0.977	-116.79	0.119	95.29	0.071	136.14	0.939	-161.64	1.12	0.17

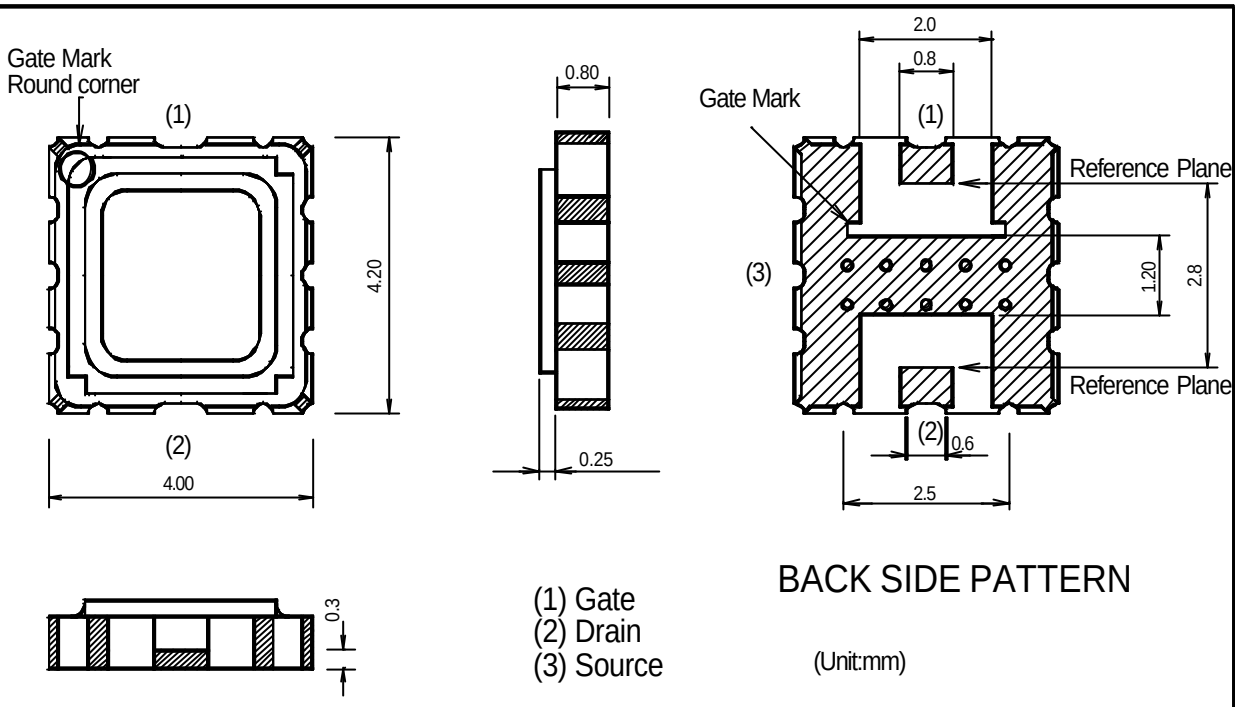


Fig.1 OUTLINE DRAWING

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