

PRELIMINARY

TECHNICAL DATA for GaAs Device

KGF1263

Apr. 1997

Compound Semiconductor Devices Business Division

Electronic Components Group

Oki Electric Industry Co., Ltd.

KGF12631. ABSOLUTE MAXIMUM RATINGS

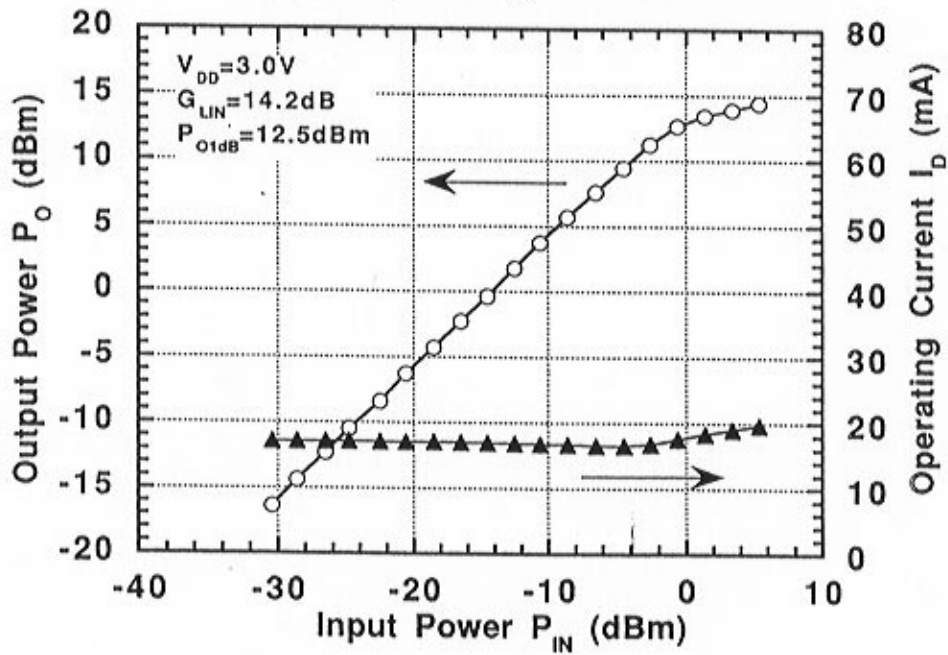
Item	Symbol	Condition	Unit	Min.	Max.
Drain-Source voltage	V_{DS}	$T_a=25^{\circ}\text{C}$	V	—	8
Gate-Source voltage	V_{GS}	$T_a=25^{\circ}\text{C}$	V	-3.0	0.4
Total power dissipation	P_{tot}	$T_a=25^{\circ}\text{C}$	mW	—	TBD
Channel temperature	T_{ch}	—	$^{\circ}\text{C}$	—	150
Storage temperature	T_{stg}	—	$^{\circ}\text{C}$	-45	125

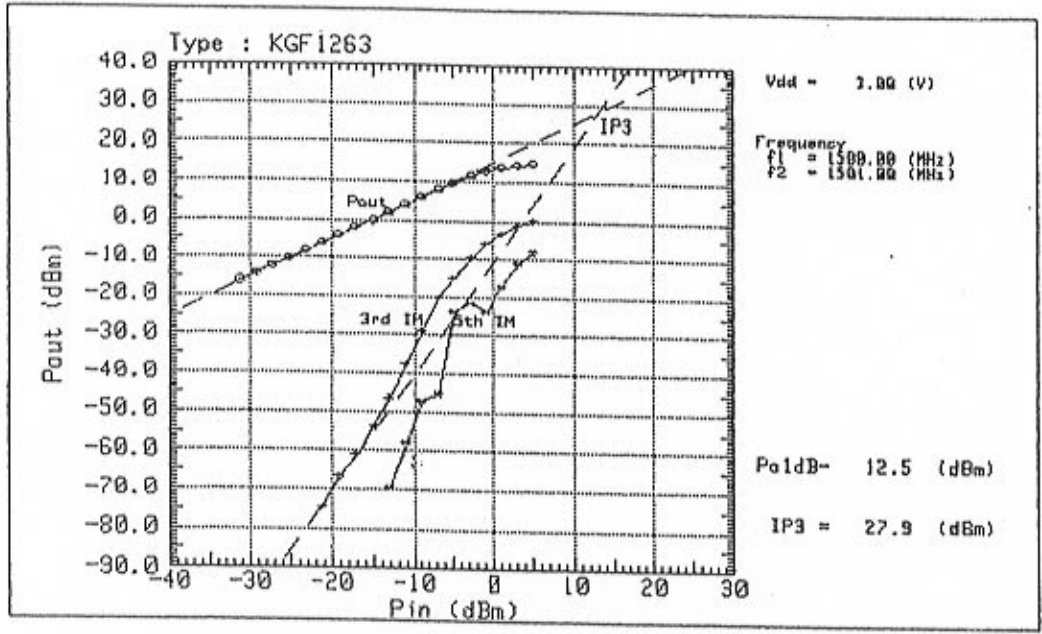
2. ELECTRICAL CHARACTERISTICS $T_a=25^{\circ}\text{C}$

Item	Symbol	Condition	Unit	Min.	Typ.	Max.
Operating current	I_D	(*1), $P_{IN}=5\text{dBm}$	mA	—	20	25
Linear gain	G_{LIN}	(*1), $P_{IN}=-20\text{dBm}$	dB	13.0	—	—
Output power	P_O	(*1), $P_{IN}=5\text{dBm}$	dBm	13.0	—	—

*1 Self-bias condition : $V_{DD}=3.0\text{V}$, $V_G=0\text{V}$, $f=1.5\text{GHz}$

KGF1263 P_O and I_D vs. P_{IN} at 1.5GHz





Type : KGF1263

f1 = 1500.00 (MHz)
f2 = 1501.00 (MHz)
Udd = 3.00 (V)
Po1 = 12.5 (dBm)
IP3 = 27.9 (dBm)

Pin (dBm)	Pout(dBm)	Gain (dB)	3rd IM(dBm)	IM3 (dBc)	5th IM(dBm)	IM5 (dBc)	Ids (mA)	Eff (%)
-31.1	-16.2	14.9	----	----	----	----	17.28	.85
-29.8	-14.2	14.8	----	----	----	----	17.19	.87
-27.1	-12.2	14.9	----	----	----	----	17.17	.12
-25.8	-10.3	14.7	----	----	----	----	17.15	.18
-23.8	-8.3	14.8	----	----	----	----	17.13	.29
-21.1	-6.2	14.9	-74.7	68.5	----	----	17.87	.47
-19.8	-4.2	14.7	-66.7	62.5	----	----	17.88	.74
-17.8	-2.2	14.8	-61.1	59.8	----	----	16.96	1.19
-14.9	-.3	14.6	-53.8	53.5	----	----	16.84	1.83
-13.8	1.8	14.8	-46.4	48.2	-69.6	71.4	16.71	3.02
-11.8	3.0	14.8	-37.6	41.4	-58.8	61.8	16.57	4.86
-8.9	5.9	14.8	-28.8	34.6	-47.1	52.9	16.51	7.78
-6.9	7.8	14.7	-28.3	28.1	-45.3	53.2	16.62	12.28
-4.9	9.6	14.5	-15.2	24.8	-23.7	33.3	16.96	18.88
-2.9	11.5	14.4	-9.7	21.2	-21.8	33.3	17.58	26.78
-.9	12.8	13.7	-5.9	18.7	-23.7	36.5	18.21	34.71
1.8	13.6	12.6	-3.3	16.9	-17.2	38.8	18.92	48.18
3.1	14.2	11.1	-1.3	15.5	-11.1	25.3	19.58	44.95
5.8	14.6	9.5	-.1	14.7	-8.2	22.8	19.86	48.87

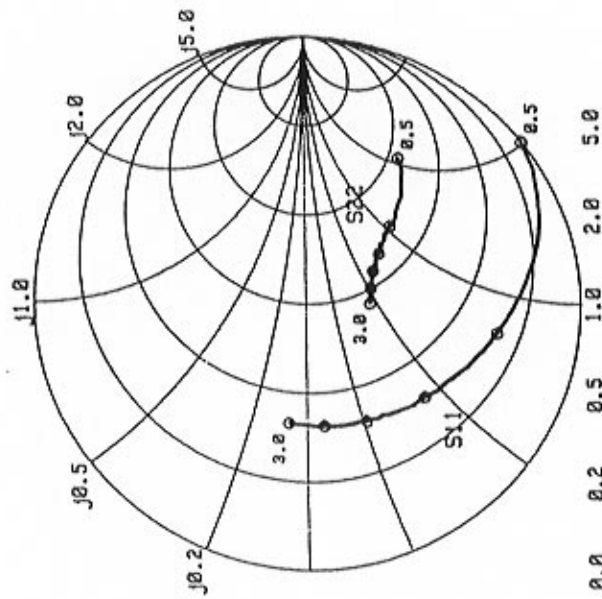
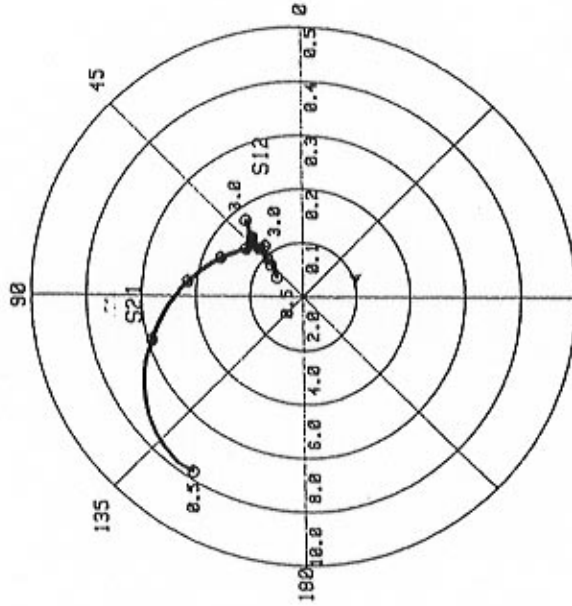
KGf1263

Typical S Parameter

Vdd = 3.00 (V)

Frequency : 0.5 to 3.0 (GHz)

Zo = 50 Ohms



KGF1263

Typical S Parameter (ver. 1) Vdd=3.00 (V)

Frequency (MHz)	S11		S21		S12		S22	
	[MAG]	[ANG]	[MAG]	[ANG]	[MAG]	[ANG]	[MAG]	[ANG]
500.0	0.998	-52.84	7.749	147.66	0.059	55.14	0.646	-32.69
600.0	0.944	-64.66	7.682	137.33	0.063	51.23	0.581	-38.17
700.0	0.880	-74.97	7.331	127.57	0.070	49.36	0.540	-41.79
800.0	0.814	-83.64	6.863	119.51	0.073	49.57	0.497	-43.64
900.0	0.755	-91.65	6.358	112.38	0.077	45.04	0.462	-46.13
1000.0	0.707	-98.84	5.880	106.46	0.081	46.51	0.430	-47.22
1100.0	0.672	-105.27	5.490	100.84	0.082	44.82	0.408	-48.87
1200.0	0.637	-111.92	5.152	96.20	0.090	45.20	0.384	-49.73
1300.0	0.605	-117.49	4.833	91.53	0.089	44.96	0.366	-51.50
1400.0	0.583	-123.64	4.564	86.88	0.094	44.41	0.352	-52.70
1500.0	0.558	-128.51	4.298	83.19	0.095	44.18	0.333	-55.19
1600.0	0.547	-133.95	4.072	79.44	0.103	44.52	0.323	-56.36
1700.0	0.527	-139.31	3.890	75.79	0.107	44.26	0.310	-57.25
1800.0	0.514	-144.11	3.666	72.02	0.109	43.47	0.299	-59.75
1900.0	0.502	-148.89	3.502	68.48	0.115	44.54	0.290	-61.09
2000.0	0.492	-153.12	3.348	65.24	0.118	42.97	0.281	-63.55
2100.0	0.481	-157.31	3.203	62.30	0.120	42.55	0.269	-64.06
2200.0	0.478	-160.74	3.082	59.42	0.128	44.05	0.271	-68.06
2300.0	0.475	-165.27	2.932	56.14	0.137	43.71	0.262	-69.06
2400.0	0.470	-168.34	2.845	52.90	0.139	42.54	0.259	-71.98
2500.0	0.460	-172.25	2.730	50.63	0.143	41.40	0.250	-75.81
2600.0	0.461	-175.44	2.621	47.46	0.150	40.78	0.251	-76.77
2700.0	0.456	-178.44	2.549	45.16	0.154	41.63	0.244	-79.97
2800.0	0.455	178.07	2.477	42.15	0.160	39.58	0.238	-82.80
2900.0	0.453	175.27	2.400	39.68	0.170	38.62	0.237	-86.14
3000.0	0.452	171.27	2.312	37.26	0.175	37.49	0.239	-88.88