

# RQA0004LXAQS

## Silicon N-Channel MOS FET

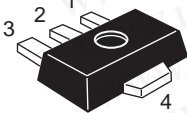
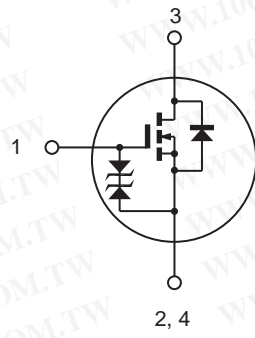
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### Features

- High Output Power, High Gain, High Efficiency  
 $P_{out} = +29.7 \text{ dBm}$ , Linear Gain = 21 dB, PAE = 68% ( $f = 520 \text{ MHz}$ )
- Compact package capable of surface mounting

### Outline

RENESAS Package code: PLZZ0004CA-A  
 (Package Name : UPAK)

1. Gate  
 2. Source  
 3. Drain  
 4. Source

Note: Marking is "LX".

### Absolute Maximum Ratings

( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{bss}$	16	V
Gate to source voltage	$V_{gss}$	$\pm 5$	V
Drain current	$I_D$	0.3	A
Channel dissipation	$P_{ch}^{note}$	3	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-50 to +150	$^\circ\text{C}$

Note: Value at  $T_c = 25^\circ\text{C}$

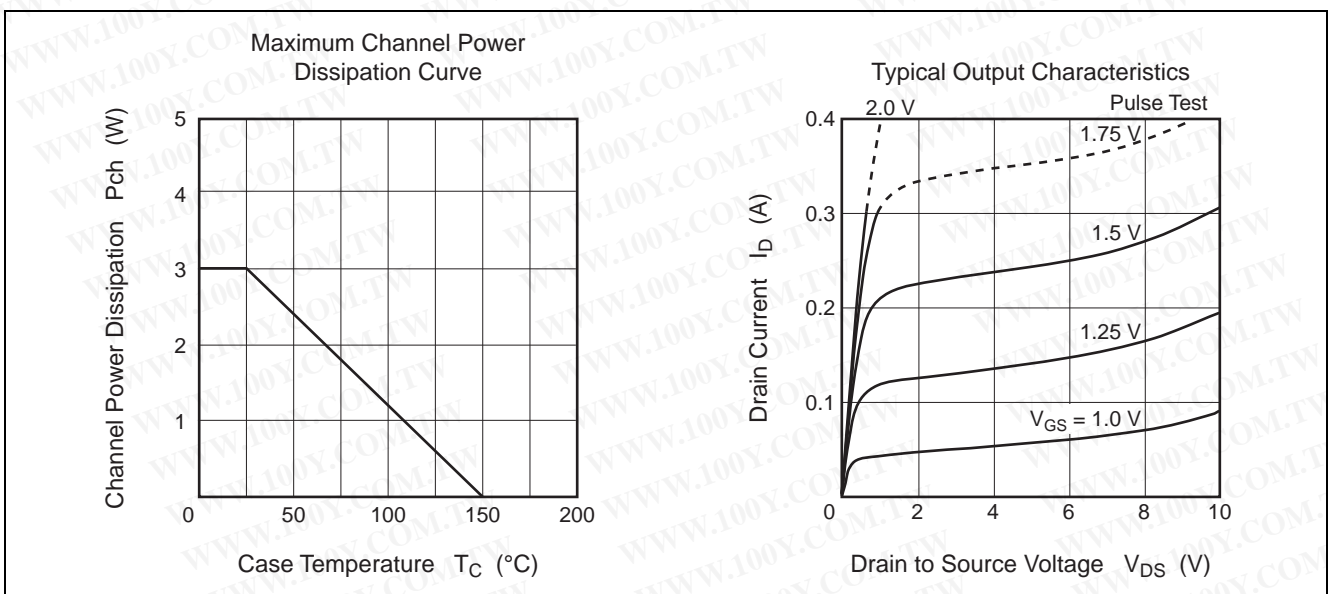
This device is sensitive to electro static discharge. An adequate careful handling procedure is requested.

## Electrical Characteristics

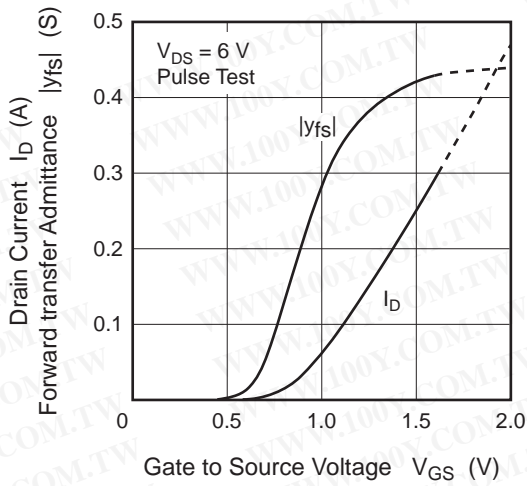
(Ta = 25°C)

Item	Symbol	Min.	Typ	Max.	Unit	Test Conditions
Zero gate voltage drain current	$I_{DSS}$	—	—	2	$\mu\text{A}$	$V_{DS} = 16\text{ V}, V_{GS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 2$	$\mu\text{A}$	$V_{GS} = \pm 5\text{ V}, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.3	0.6	0.9	V	$V_{DS} = 6\text{ V}, I_D = 1\text{ mA}$
Forward Transfer Admittance	$ y_{fs} $	—	0.43	—	S	$V_{DS} = 6\text{ V}, I_D = 0.3\text{ A}$
Input capacitance	$C_{iss}$	—	10	—	pF	$V_{GS} = 5\text{ V}, V_{DS} = 0, f = 1\text{ MHz}$
Output capacitance	$C_{oss}$	—	5	—	pF	$V_{DS} = 6\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$
Reverse transfer capacitance	$C_{rss}$	—	0.4	—	pF	$V_{DG} = 6\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$
Output Power	$P_{out}$	—	25.1	—	dBm	$V_{DS} = 3.7\text{ V}, I_{DQ} = 50\text{ mA}$ $f = 174\text{ MHz}$ $P_{in} = +13\text{ dBm (20 mW)}$
		—	0.33	—	W	
Power Added Efficiency	PAE	—	65	—	%	
Output Power	$P_{out}$	—	26.6	—	dBm	$V_{DS} = 3.7\text{ V}, I_{DQ} = 50\text{ mA}$ $f = 520\text{ MHz}$ $P_{in} = +13\text{ dBm (20 mW)}$
		—	0.46	—	W	
Power Added Efficiency	PAE	—	71	—	%	
Output Power	$P_{out}$	—	29.7	—	dBm	$V_{DS} = 6\text{ V}, I_{DQ} = 50\text{ mA}$ $f = 520\text{ MHz}$ $P_{in} = +13\text{ dBm (20 mW)}$
		—	0.93	—	W	
Power Added Efficiency	PAE	—	68	—	%	

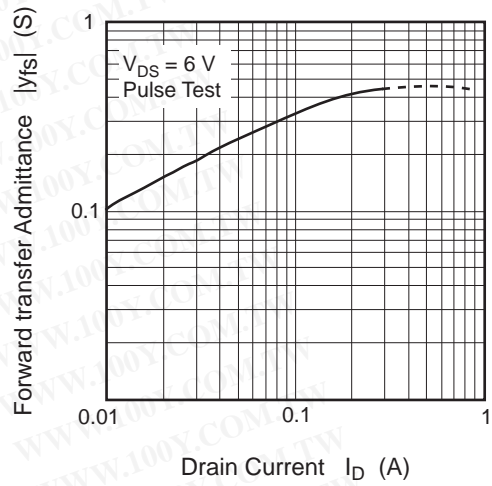
## Main Characteristics



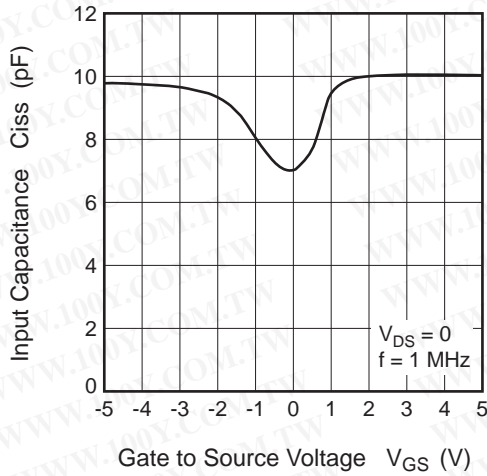
Typical Transfer Characteristics



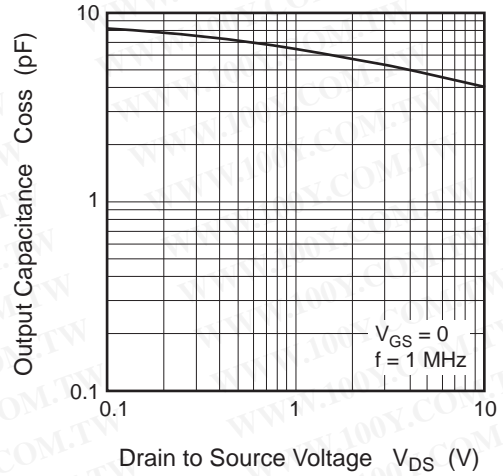
Forward Transfer Admittance vs. Drain Current



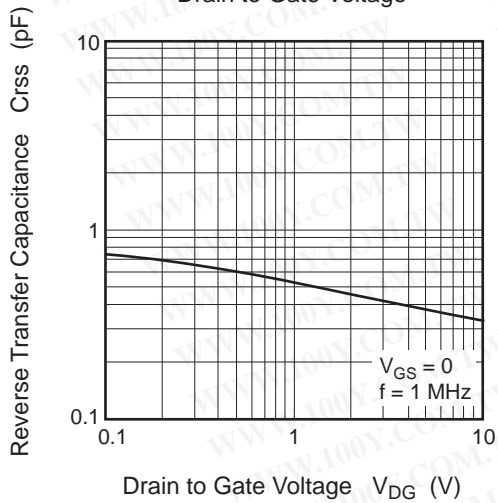
Input Capacitance vs. Gate to Source Voltage



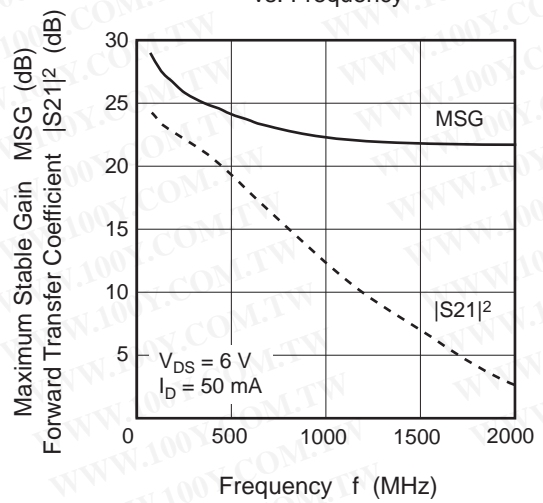
Output Capacitance vs. Drain to Source Voltage



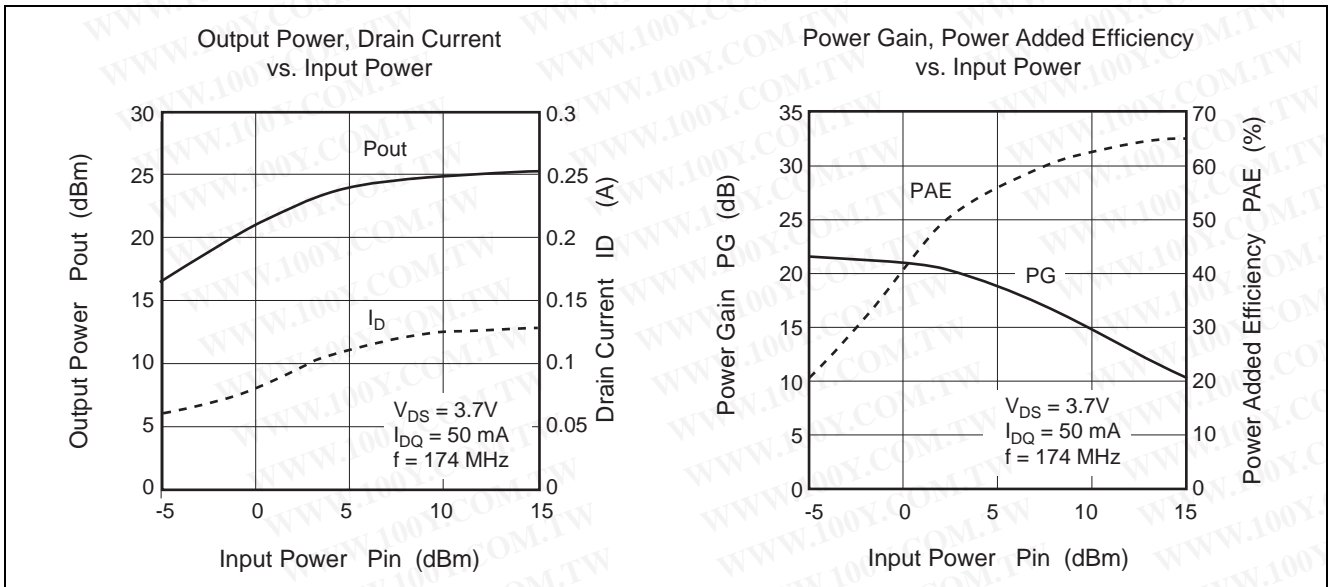
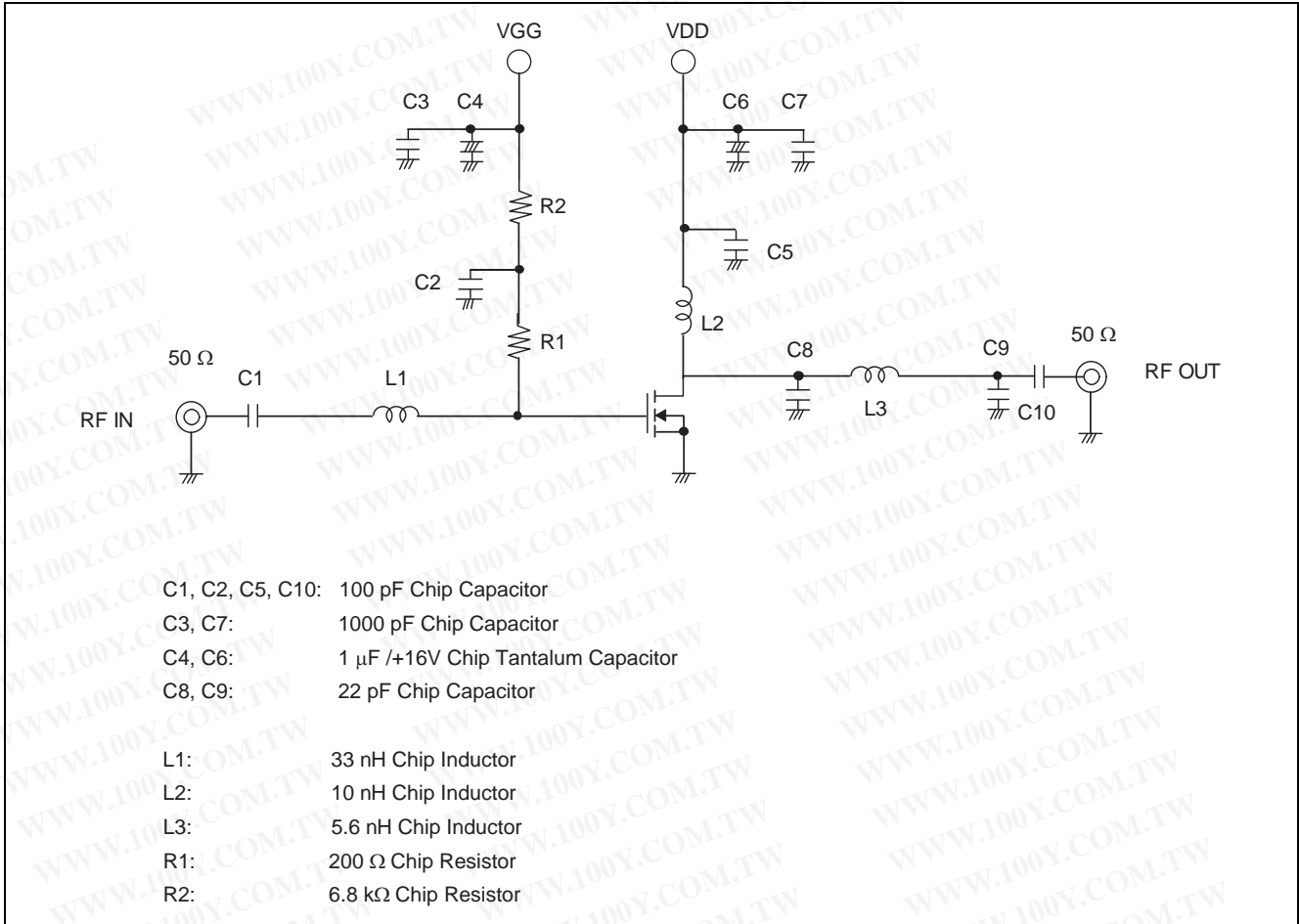
Reverse Transfer Capacitance vs. Drain to Gate Voltage

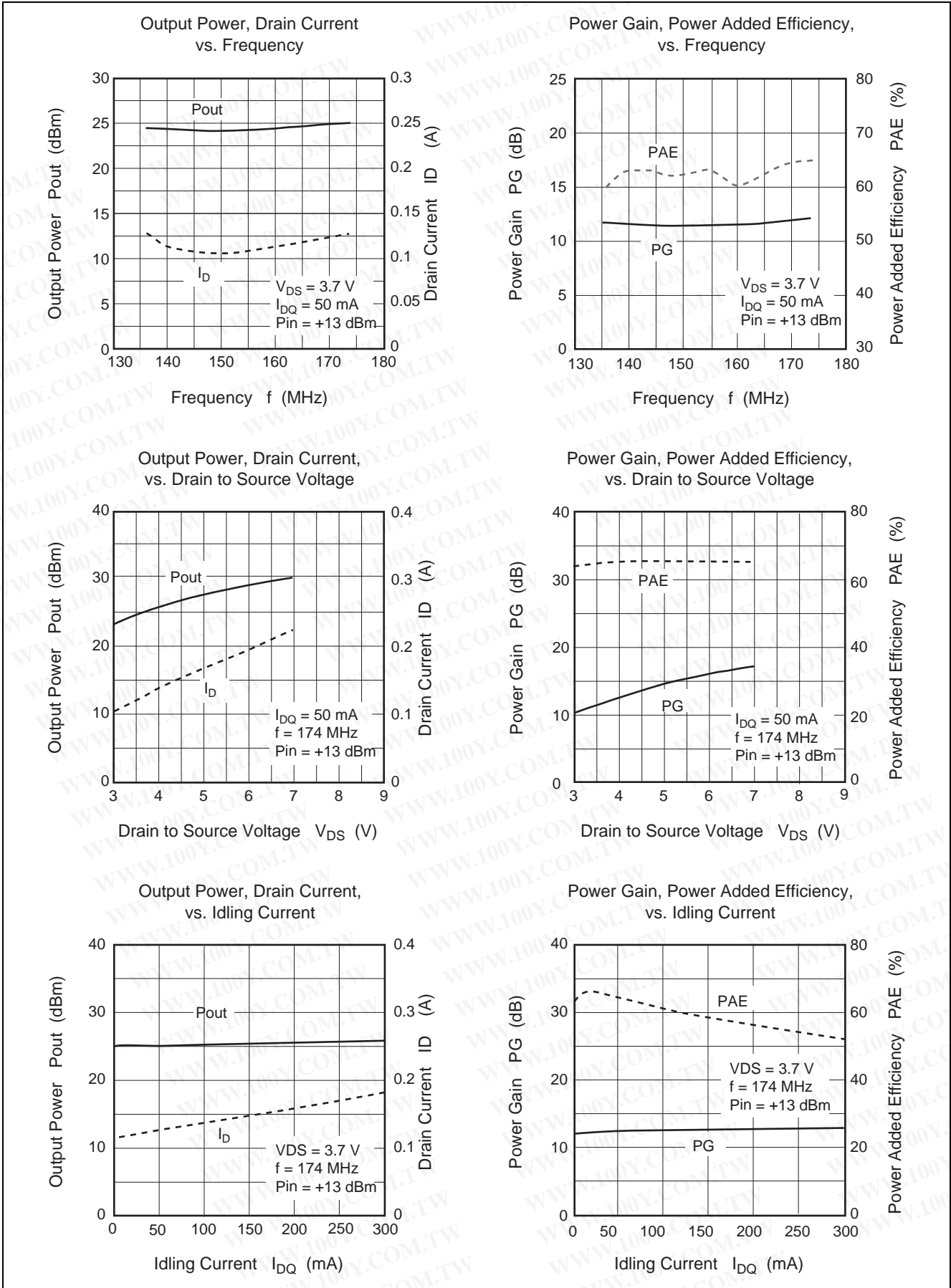


Maximum Stable Gain,  $|S_{21}|^2$  vs. Frequency

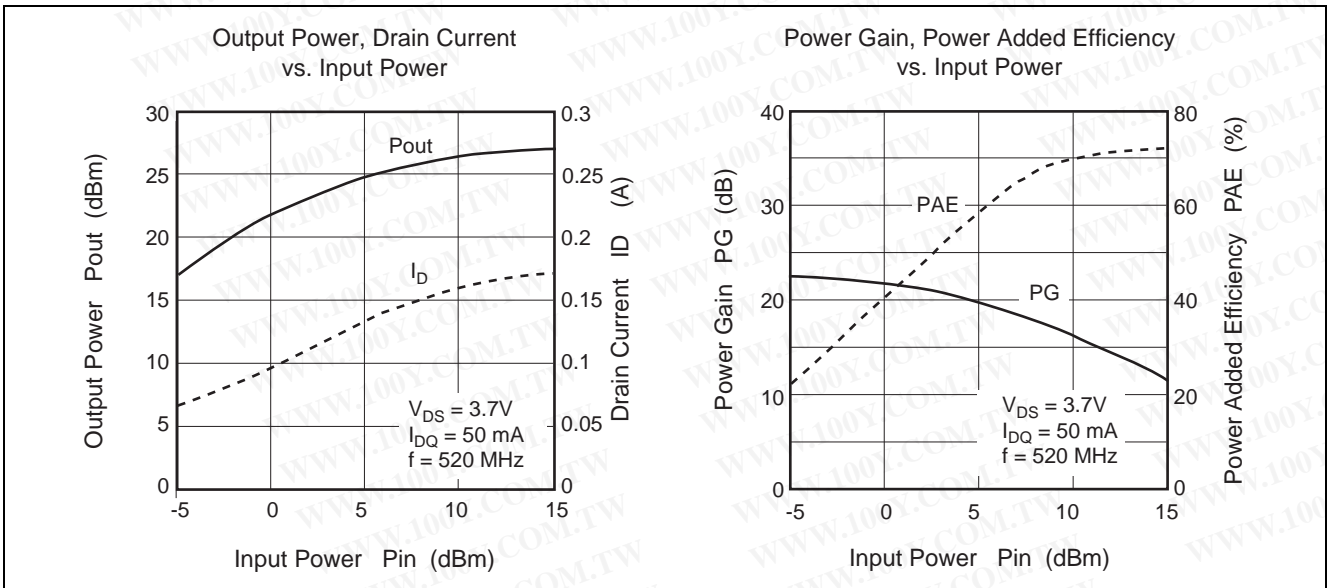
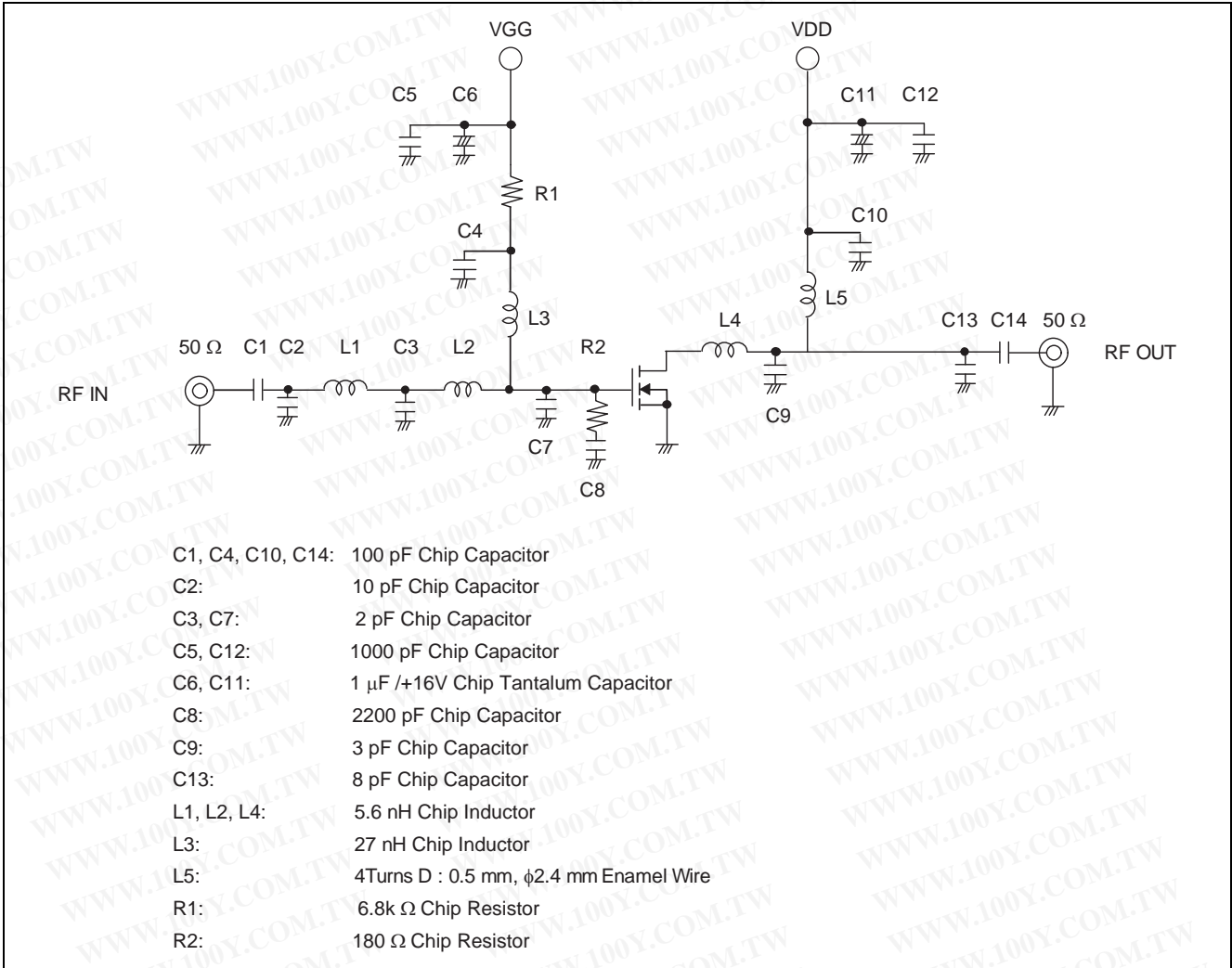


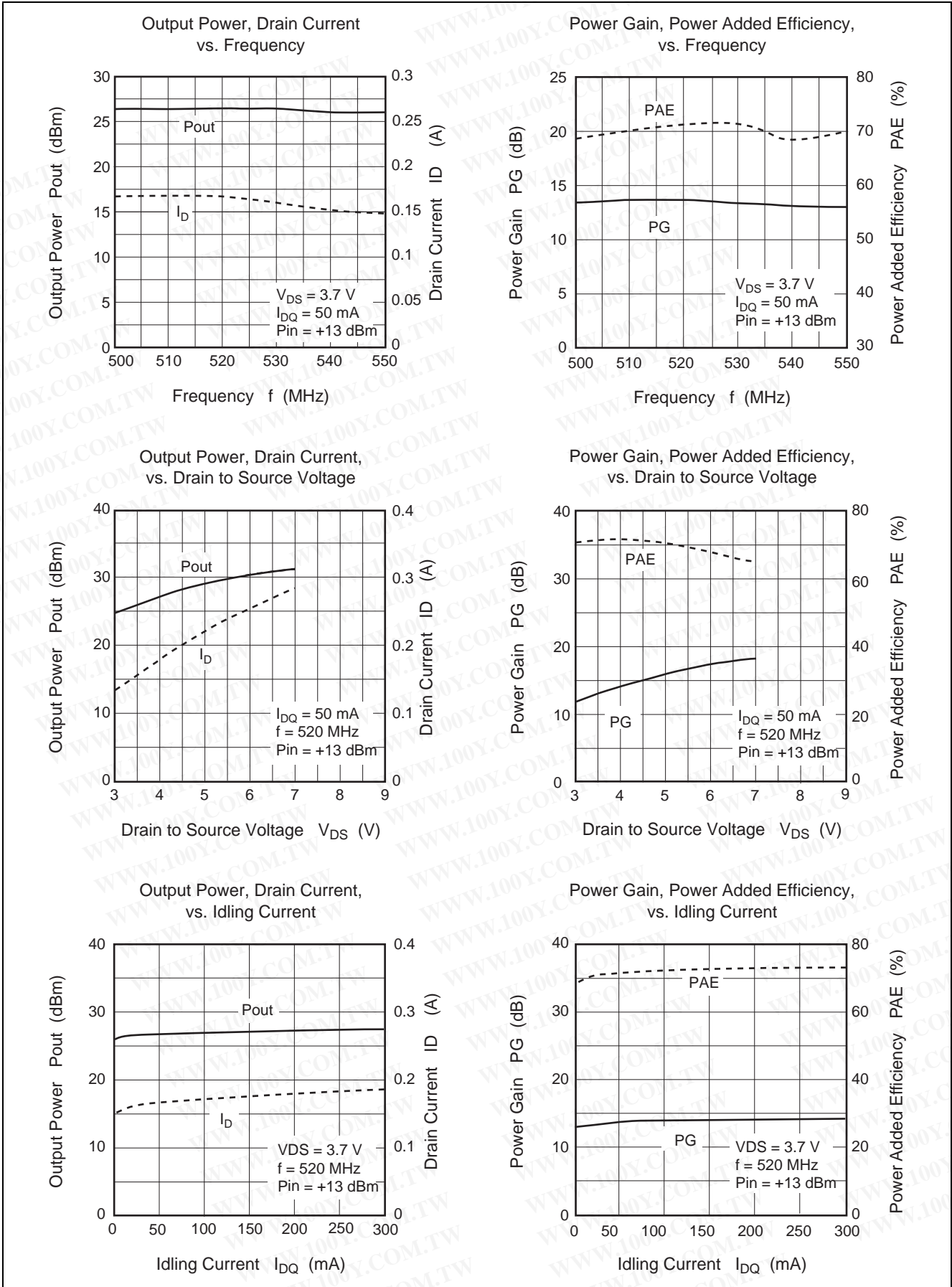
Evaluation Circuit 1 (@V<sub>DD</sub> = 3.7 V Tuning, f = 174 MHz)

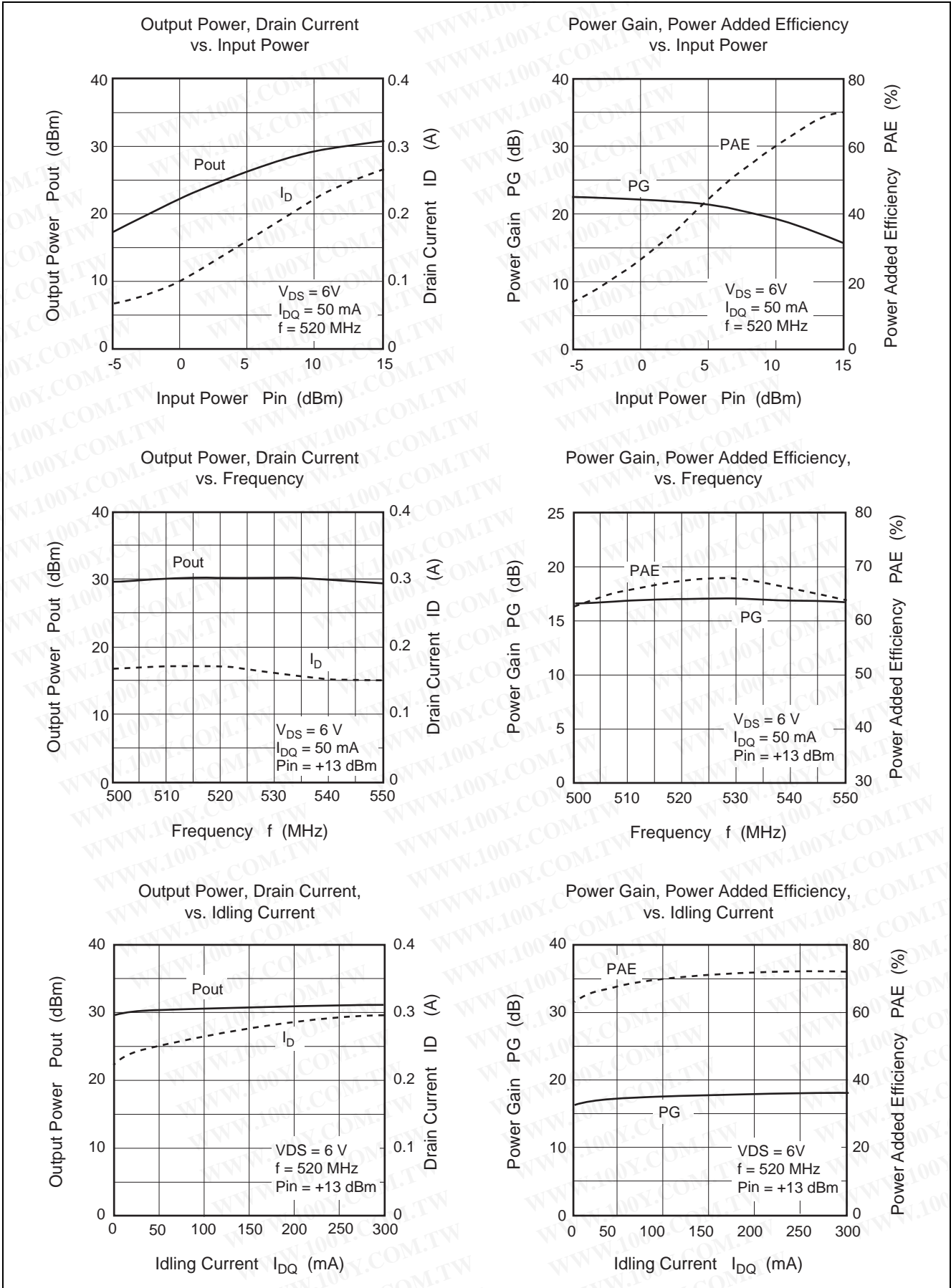




Evaluation Circuit 2 (@V<sub>DD</sub> = 3.7 & 6.0V Tuning, f = 520 MHz)

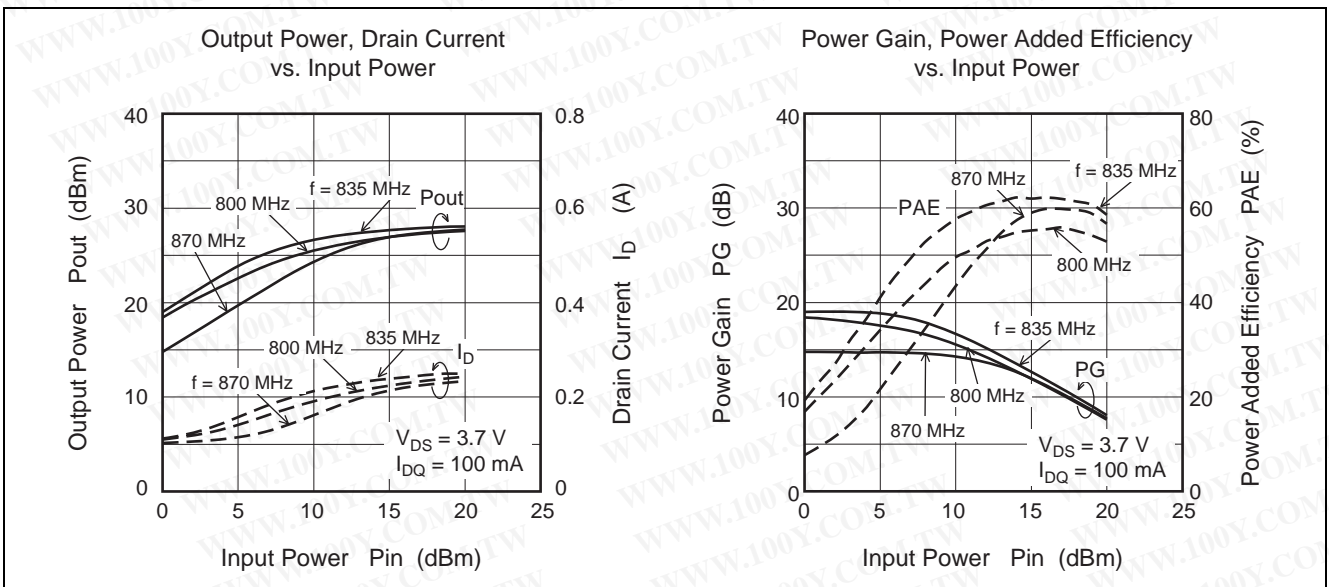
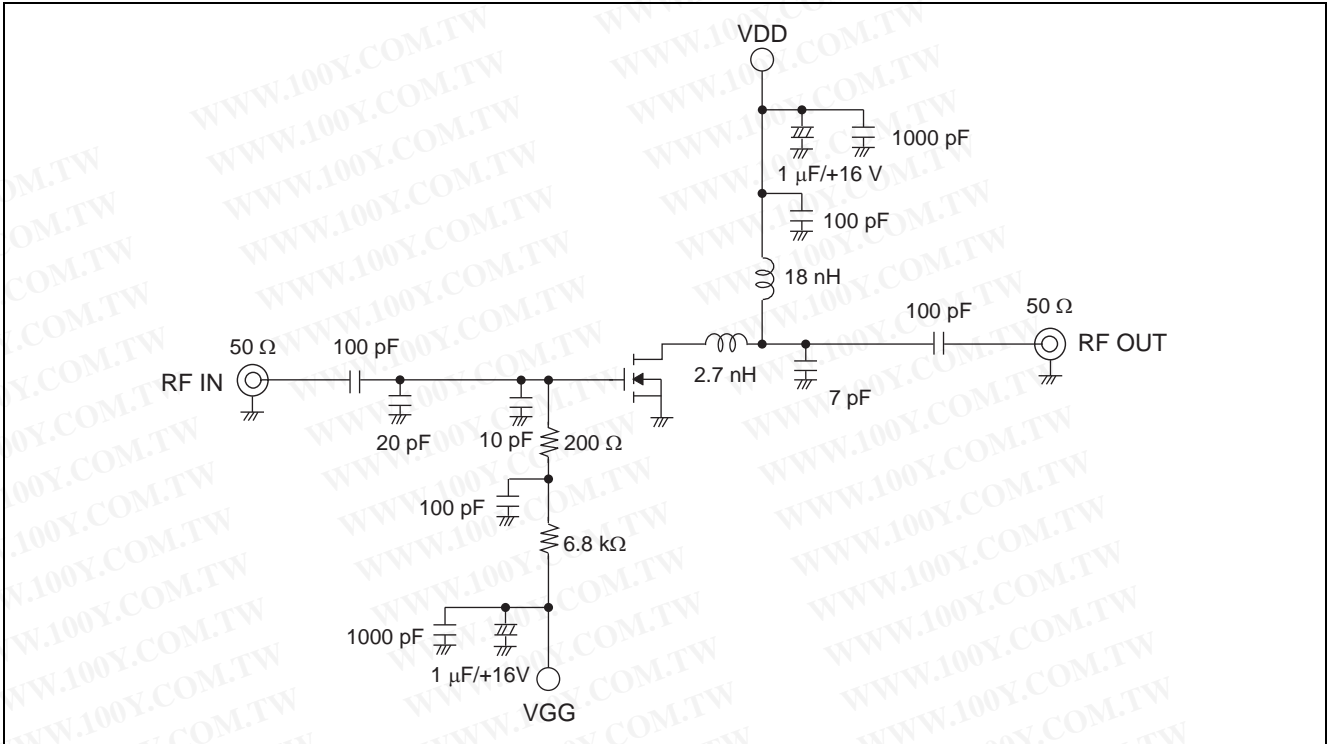


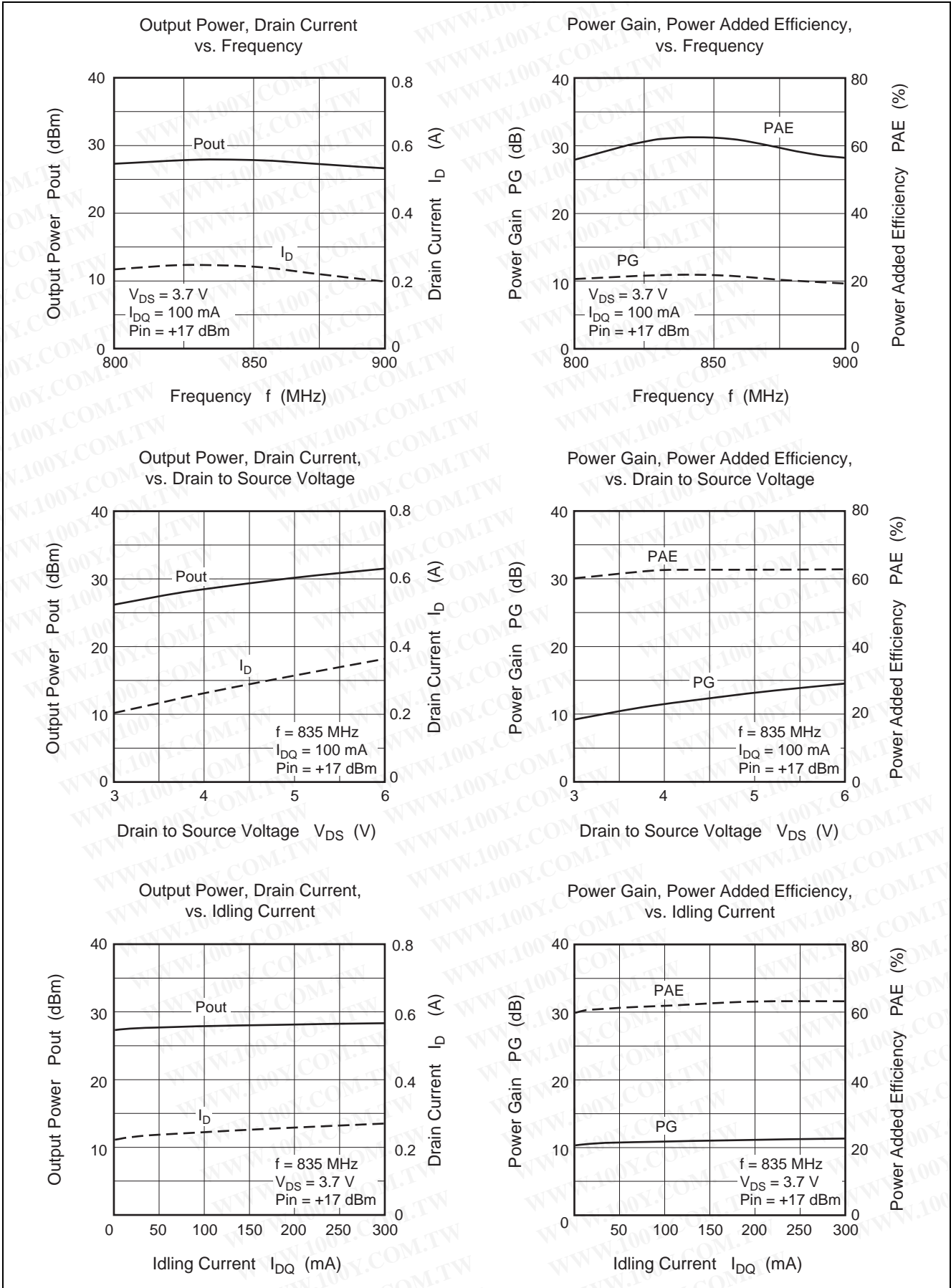




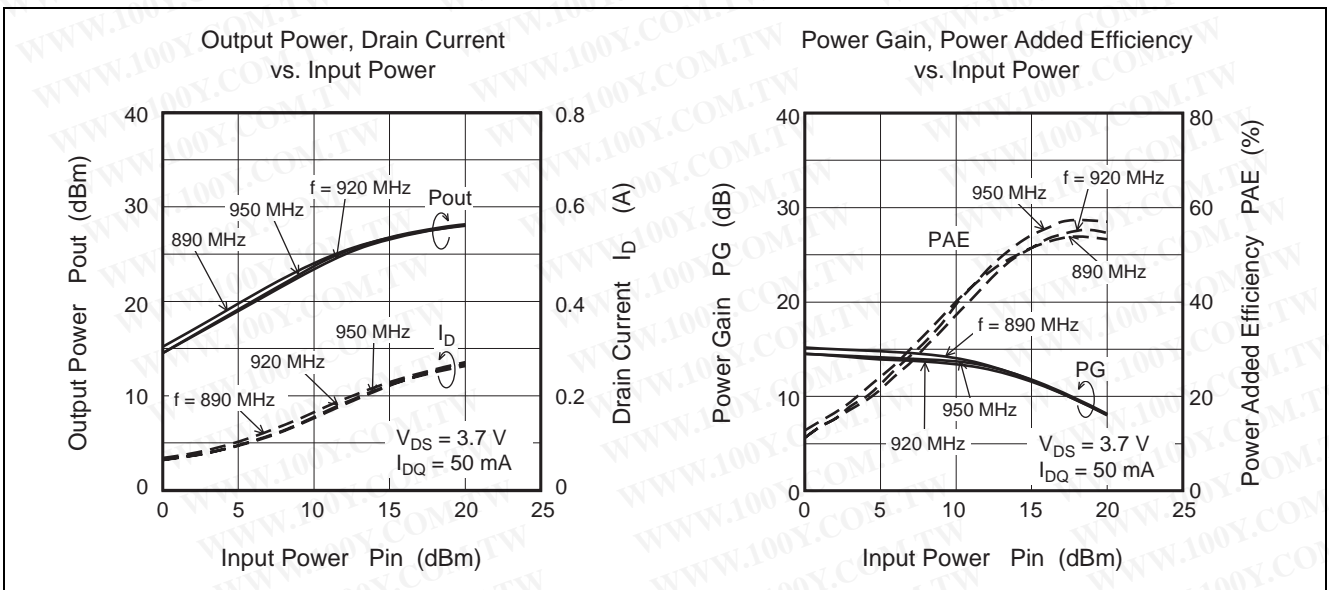
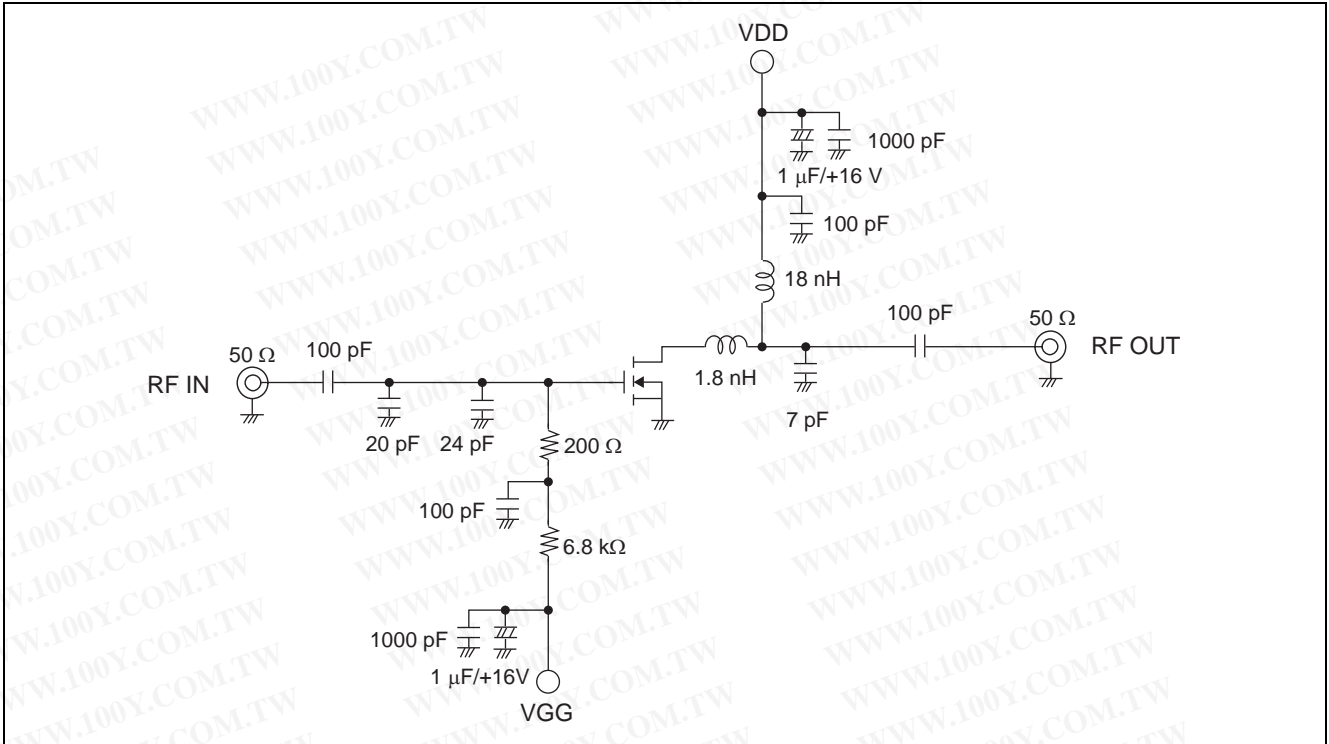


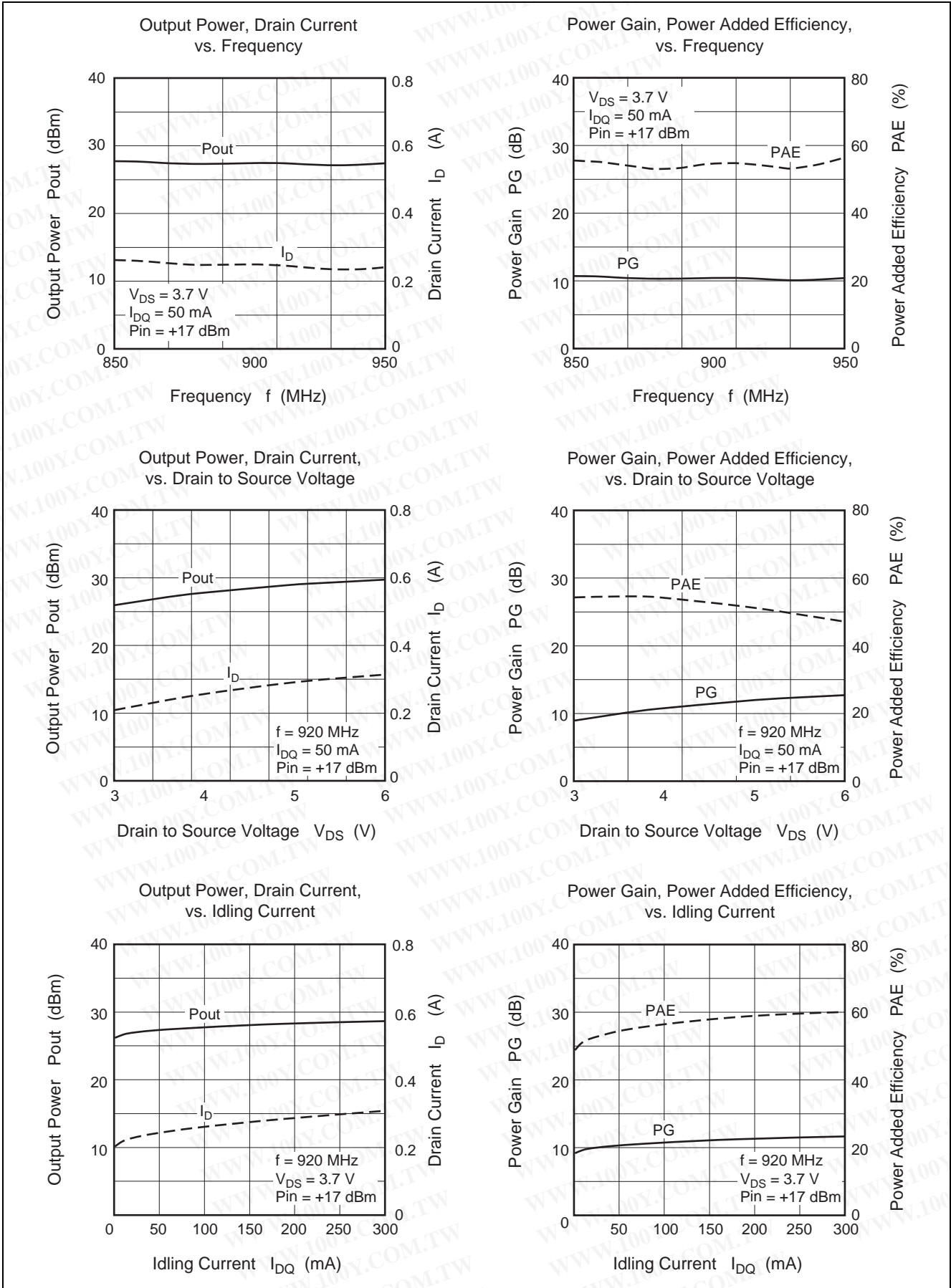
Evaluation Circuit 3 (@V<sub>DD</sub> = 3.7 V Tuning, f = 800 to 870 MHz)





Evaluation Circuit 4 (@V<sub>DD</sub> = 3.7 V Tuning, f = 890 to 950 MHz)





## S Parameter

 $(V_{DS} = 3.6 \text{ V}, I_{DQ} = 50 \text{ mA}, Z_o = 50 \Omega)$ 

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.946	-40.3	15.41	148.7	0.021	69.4	0.784	-30.2
150	0.931	-58.4	12.58	136.4	0.029	46.8	0.744	-51.2
200	0.898	-74.0	11.57	126.4	0.034	36.1	0.700	-66.0
250	0.865	-87.5	11.08	117.4	0.037	27.8	0.657	-77.8
300	0.856	-99.2	10.15	109.2	0.038	20.8	0.640	-86.9
350	0.827	-108.7	9.91	102.2	0.039	14.1	0.615	-94.4
400	0.812	-116.8	9.44	95.7	0.040	8.9	0.601	-100.8
450	0.804	-122.6	8.78	90.2	0.040	4.0	0.595	-106.1
500	0.792	-128.2	8.15	84.9	0.040	-0.9	0.595	-110.9
550	0.791	-132.4	7.55	80.5	0.040	-4.6	0.596	-115.2
600	0.790	-136.4	7.00	76.4	0.039	-8.2	0.602	-119.1
650	0.787	-140.2	6.48	72.3	0.038	-11.5	0.608	-122.7
700	0.787	-143.7	6.03	68.5	0.038	-14.5	0.616	-125.9
750	0.788	-147.1	5.59	64.9	0.037	-17.6	0.626	-129.2
800	0.792	-150.0	5.22	61.3	0.036	-20.5	0.634	-132.1
850	0.797	-152.7	4.86	58.0	0.035	-23.1	0.643	-134.9
900	0.801	-155.2	4.54	54.7	0.034	-25.1	0.654	-137.6
950	0.807	-157.3	4.29	51.4	0.033	-27.5	0.664	-140.2
1000	0.812	-159.4	4.06	48.8	0.032	-29.7	0.675	-142.8
1050	0.817	-161.7	3.83	46.1	0.031	-31.6	0.686	-145.3
1100	0.827	-163.5	3.62	43.7	0.030	-33.7	0.695	-147.5
1150	0.834	-165.6	3.42	41.0	0.028	-35.1	0.704	-149.8
1200	0.840	-167.1	3.24	38.6	0.027	-36.6	0.714	-152.0
1250	0.846	-168.4	3.06	36.3	0.026	-38.2	0.723	-154.0
1300	0.845	-170.1	2.89	33.7	0.025	-39.6	0.733	-156.0
1350	0.839	-171.7	2.73	31.2	0.024	-40.9	0.740	-158.1
1400	0.843	-173.8	2.59	28.6	0.023	-41.9	0.749	-160.2
1450	0.847	-175.4	2.47	26.3	0.022	-43.0	0.755	-161.9
1500	0.850	-177.1	2.34	24.0	0.020	-43.9	0.760	-164.0
1550	0.852	-179.0	2.24	21.8	0.019	-44.6	0.768	-166.0
1600	0.858	-179.6	2.13	19.7	0.018	-44.7	0.774	-167.8
1650	0.861	-178.3	2.05	17.6	0.017	-45.2	0.777	-169.6
1700	0.863	-176.8	1.96	15.4	0.016	-45.3	0.784	-171.7
1750	0.863	-174.8	1.88	13.1	0.015	-44.9	0.792	-173.6
1800	0.873	-173.0	1.81	10.9	0.014	-44.9	0.798	-175.3
1850	0.878	-171.4	1.75	9.0	0.013	-43.7	0.800	-177.3
1900	0.886	-170.2	1.68	7.3	0.012	-42.9	0.807	-179.3
1950	0.895	-168.9	1.61	5.5	0.012	-41.0	0.816	-179.1
2000	0.894	-168.2	1.55	4.2	0.011	-38.6	0.818	-177.6
2050	0.895	-167.3	1.48	2.7	0.010	-35.6	0.822	-175.6
2100	0.890	-165.8	1.42	0.9	0.010	-33.6	0.830	-173.8
2150	0.890	-164.0	1.37	-1.1	0.009	-29.1	0.837	-172.3
2200	0.896	-162.6	1.32	-3.1	0.009	-24.1	0.838	-170.7
2250	0.898	-161.1	1.27	-5.2	0.008	-19.0	0.842	-168.9
2300	0.902	-159.8	1.22	-7.1	0.008	-12.8	0.848	-167.1
2350	0.903	-158.4	1.19	-9.0	0.008	-8.3	0.851	-165.8
2400	0.901	-157.4	1.15	-11.0	0.008	-3.0	0.852	-164.1
2450	0.895	-155.9	1.11	-12.6	0.008	2.0	0.855	-162.4
2500	0.894	-154.0	1.07	-14.4	0.008	6.9	0.861	-160.9

## S Parameter

(V<sub>DS</sub> = 6 V, I<sub>DQ</sub> = 10 mA, Z<sub>o</sub> = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.973	-34.4	12.25	150.2	0.022	69.9	0.869	-20.3
150	0.931	-49.5	11.13	138.3	0.031	54.5	0.858	-35.1
200	0.913	-63.2	10.12	128.8	0.038	43.4	0.823	-45.4
250	0.896	-74.6	9.10	120.5	0.043	34.8	0.801	-54.6
300	0.892	-85.3	8.08	113.3	0.046	26.8	0.788	-62.5
350	0.878	-93.6	7.27	107.0	0.048	19.3	0.773	-70.0
400	0.870	-101.5	6.56	100.5	0.050	12.6	0.759	-77.0
450	0.861	-108.4	5.95	94.8	0.051	6.6	0.754	-83.0
500	0.853	-114.4	5.40	89.2	0.051	0.9	0.749	-88.6
550	0.853	-119.5	4.91	84.0	0.051	-3.9	0.747	-93.9
600	0.851	-124.3	4.50	79.0	0.050	-8.5	0.750	-98.8
650	0.845	-128.6	4.15	74.4	0.050	-12.8	0.752	-103.3
700	0.844	-132.8	3.79	70.0	0.048	-16.7	0.755	-107.5
750	0.846	-136.7	3.48	65.6	0.047	-20.3	0.761	-111.6
800	0.849	-140.2	3.22	61.6	0.046	-23.9	0.767	-115.4
850	0.853	-143.5	2.99	57.7	0.045	-27.1	0.772	-119.2
900	0.857	-146.4	2.78	53.9	0.043	-29.8	0.778	-122.7
950	0.860	-149.0	2.59	50.1	0.042	-32.9	0.785	-126.1
1000	0.867	-151.5	2.44	47.2	0.041	-35.5	0.792	-129.4
1050	0.870	-154.0	2.30	44.3	0.039	-38.2	0.798	-132.5
1100	0.875	-156.5	2.15	41.4	0.037	-40.8	0.805	-135.5
1150	0.883	-158.7	2.03	38.5	0.036	-43.1	0.811	-138.4
1200	0.888	-161.0	1.92	35.9	0.034	-45.2	0.818	-141.1
1250	0.890	-162.5	1.79	33.4	0.033	-47.4	0.823	-143.7
1300	0.890	-164.5	1.69	30.7	0.031	-49.1	0.830	-146.2
1350	0.886	-166.6	1.59	27.7	0.030	-51.1	0.834	-148.7
1400	0.886	-168.7	1.51	25.2	0.028	-52.6	0.840	-151.2
1450	0.886	-170.8	1.43	22.9	0.027	-54.4	0.843	-153.3
1500	0.889	-172.6	1.36	20.3	0.025	-56.0	0.846	-155.9
1550	0.891	-174.5	1.29	18.1	0.024	-57.4	0.851	-158.2
1600	0.895	-176.1	1.23	15.9	0.022	-58.5	0.855	-160.3
1650	0.898	-177.6	1.18	13.7	0.021	-59.9	0.855	-162.4
1700	0.896	-179.5	1.12	11.4	0.020	-60.8	0.859	-164.7
1750	0.897	178.5	1.08	9.3	0.019	-61.8	0.866	-166.9
1800	0.903	176.4	1.03	7.0	0.017	-62.7	0.869	-168.8
1850	0.911	174.8	0.99	4.9	0.016	-62.8	0.869	-171.0
1900	0.917	173.4	0.95	3.2	0.015	-63.2	0.874	-173.3
1950	0.926	172.0	0.91	1.5	0.014	-63.2	0.881	-175.1
2000	0.928	171.1	0.87	0.2	0.012	-63.1	0.879	-176.8
2050	0.925	170.1	0.83	-1.5	0.011	-61.7	0.883	-179.1
2100	0.918	168.7	0.80	-3.3	0.010	-60.9	0.888	179.0
2150	0.916	166.8	0.76	-5.3	0.009	-59.1	0.894	177.4
2200	0.918	165.3	0.73	-7.4	0.008	-55.0	0.894	175.6
2250	0.922	163.6	0.71	-9.4	0.007	-52.5	0.895	173.6
2300	0.921	162.2	0.68	-11.4	0.007	-46.3	0.900	171.8
2350	0.923	160.6	0.65	-13.3	0.006	-40.6	0.902	170.3
2400	0.920	159.7	0.63	-15.2	0.006	-33.7	0.902	168.5
2450	0.913	158.0	0.61	-16.8	0.005	-24.3	0.902	166.6
2500	0.911	156.0	0.59	-18.6	0.005	-14.3	0.907	164.9

## S Parameter

 $(V_{DS} = 6\text{ V}, I_{DQ} = 25\text{ mA}, Z_o = 50\ \Omega)$ 

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.959	-37.1	15.64	150.5	0.021	68.6	0.793	-24.9
150	0.921	-53.7	13.98	137.6	0.030	51.0	0.772	-42.1
200	0.900	-68.0	12.68	128.1	0.034	40.6	0.732	-54.4
250	0.880	-80.1	11.49	119.6	0.038	31.7	0.701	-64.6
300	0.875	-90.8	10.21	112.2	0.040	24.1	0.685	-73.2
350	0.857	-99.6	9.32	105.9	0.042	17.3	0.663	-80.8
400	0.844	-107.8	8.53	99.4	0.043	11.5	0.649	-87.5
450	0.836	-114.7	7.76	93.6	0.044	6.1	0.642	-93.1
500	0.827	-120.7	7.12	88.2	0.044	1.3	0.639	-98.3
550	0.824	-125.9	6.56	83.3	0.043	-3.1	0.637	-103.0
600	0.821	-130.4	6.06	78.7	0.043	-7.0	0.641	-107.4
650	0.818	-134.3	5.63	74.4	0.042	-10.7	0.645	-111.3
700	0.813	-138.3	5.20	70.4	0.041	-14.2	0.651	-115.1
750	0.816	-142.1	4.83	66.5	0.040	-17.5	0.659	-118.7
800	0.817	-145.5	4.50	62.6	0.040	-20.5	0.667	-122.0
850	0.820	-148.4	4.19	59.2	0.039	-23.3	0.674	-125.3
900	0.826	-150.9	3.93	55.7	0.037	-25.8	0.684	-128.3
950	0.830	-153.2	3.70	52.4	0.036	-28.5	0.693	-131.4
1000	0.834	-155.8	3.50	49.4	0.035	-30.8	0.703	-134.3
1050	0.841	-158.3	3.31	46.4	0.034	-33.1	0.713	-137.1
1100	0.847	-160.3	3.12	44.0	0.033	-35.4	0.722	-139.6
1150	0.852	-162.3	2.96	41.3	0.031	-37.3	0.730	-142.2
1200	0.856	-164.4	2.80	38.8	0.030	-39.1	0.739	-144.7
1250	0.865	-165.9	2.63	36.5	0.029	-41.0	0.747	-147.0
1300	0.862	-167.5	2.49	33.8	0.028	-42.5	0.756	-149.3
1350	0.860	-169.6	2.35	30.9	0.026	-43.9	0.762	-151.6
1400	0.860	-171.5	2.24	28.5	0.025	-45.5	0.771	-153.8
1450	0.862	-173.2	2.12	26.1	0.024	-46.8	0.777	-155.8
1500	0.863	-175.2	2.02	23.6	0.023	-48.1	0.781	-158.1
1550	0.866	-176.9	1.93	21.6	0.022	-49.2	0.788	-160.3
1600	0.871	-178.4	1.84	19.3	0.020	-49.9	0.793	-162.4
1650	0.875	-179.8	1.76	17.2	0.019	-50.8	0.796	-164.3
1700	0.873	-178.5	1.68	14.8	0.018	-51.4	0.802	-166.5
1750	0.876	-176.5	1.61	12.7	0.017	-51.4	0.810	-168.5
1800	0.883	-174.5	1.56	10.4	0.016	-51.6	0.815	-170.3
1850	0.889	-173.0	1.50	8.5	0.015	-51.7	0.816	-172.5
1900	0.897	-171.7	1.44	6.7	0.014	-50.9	0.823	-174.6
1950	0.905	-170.4	1.38	5.1	0.013	-50.1	0.832	-176.4
2000	0.909	-169.7	1.33	3.6	0.012	-49.2	0.833	-178.0
2050	0.905	-168.7	1.27	2.1	0.011	-47.0	0.837	-179.9
2100	0.899	-167.3	1.21	0.1	0.010	-45.2	0.843	-177.9
2150	0.898	-165.3	1.17	-1.8	0.009	-42.2	0.850	-176.5
2200	0.902	-163.9	1.12	-3.8	0.008	-37.3	0.851	-174.7
2250	0.906	-162.2	1.09	-6.0	0.008	-33.6	0.854	-172.8
2300	0.908	-160.9	1.05	-7.9	0.007	-28.1	0.860	-171.0
2350	0.908	-159.5	1.02	-9.8	0.007	-22.0	0.863	-169.5
2400	0.907	-158.5	0.98	-11.5	0.007	-16.1	0.863	-167.8
2450	0.898	-157.1	0.95	-13.3	0.007	-9.5	0.866	-166.0
2500	0.898	-154.9	0.92	-15.0	0.007	-2.6	0.872	-164.4

## S Parameter

(V<sub>DS</sub> = 6 V, I<sub>DQ</sub> = 50 mA, Z<sub>o</sub> = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.960	-41.0	19.06	150.1	0.019	63.9	0.702	-28.7
150	0.916	-58.4	16.77	137.1	0.027	48.6	0.688	-48.7
200	0.892	-73.5	15.28	127.1	0.031	38.3	0.646	-62.4
250	0.868	-86.2	14.02	118.4	0.035	30.0	0.613	-73.4
300	0.860	-97.3	12.48	110.8	0.036	22.9	0.602	-82.6
350	0.840	-106.3	11.51	104.4	0.037	16.3	0.582	-90.1
400	0.825	-114.5	10.57	98.0	0.038	11.5	0.571	-96.7
450	0.816	-121.2	9.62	92.7	0.038	6.3	0.567	-102.2
500	0.810	-126.8	8.80	87.6	0.038	2.0	0.567	-107.1
550	0.806	-131.6	8.12	83.0	0.038	-2.0	0.569	-111.4
600	0.802	-135.9	7.49	78.8	0.037	-5.4	0.573	-115.4
650	0.797	-139.6	6.94	74.9	0.037	-8.7	0.578	-119.0
700	0.795	-143.4	6.44	71.2	0.036	-11.8	0.586	-122.3
750	0.797	-146.7	5.97	67.5	0.035	-14.7	0.596	-125.5
800	0.798	-149.7	5.57	64.0	0.035	-17.6	0.604	-128.4
850	0.806	-152.4	5.20	60.7	0.034	-19.9	0.612	-131.3
900	0.807	-155.0	4.89	57.4	0.033	-21.9	0.623	-134.0
950	0.811	-157.3	4.59	54.3	0.032	-24.5	0.632	-136.6
1000	0.817	-159.5	4.35	51.4	0.031	-26.4	0.645	-139.2
1050	0.822	-161.6	4.11	48.7	0.030	-28.4	0.655	-141.7
1100	0.831	-163.6	3.90	46.3	0.029	-30.5	0.666	-144.0
1150	0.834	-165.7	3.69	43.7	0.028	-32.1	0.674	-146.3
1200	0.842	-167.2	3.50	41.3	0.027	-33.4	0.685	-148.5
1250	0.846	-168.7	3.30	39.0	0.026	-35.1	0.695	-150.5
1300	0.848	-170.2	3.13	36.4	0.025	-36.5	0.703	-152.6
1350	0.842	-171.9	2.97	33.7	0.024	-37.5	0.711	-154.7
1400	0.843	-173.9	2.82	31.4	0.023	-38.5	0.721	-156.7
1450	0.844	-175.6	2.69	29.0	0.022	-40.1	0.727	-158.5
1500	0.849	-177.3	2.56	26.7	0.021	-40.5	0.733	-160.7
1550	0.849	-178.8	2.45	24.5	0.020	-41.3	0.740	-162.7
1600	0.857	-179.6	2.33	22.4	0.018	-41.5	0.748	-164.6
1650	0.860	-178.2	2.24	20.1	0.017	-42.1	0.752	-166.3
1700	0.860	-176.8	2.15	17.9	0.017	-42.2	0.758	-168.4
1750	0.861	-174.8	2.06	15.9	0.016	-42.1	0.767	-170.3
1800	0.870	-172.9	1.99	13.6	0.015	-41.9	0.774	-172.1
1850	0.878	-171.4	1.92	11.5	0.014	-40.8	0.776	-174.0
1900	0.884	-170.1	1.84	9.8	0.013	-39.7	0.784	-176.1
1950	0.889	-169.0	1.77	8.3	0.012	-38.1	0.793	-177.7
2000	0.895	-168.3	1.71	6.7	0.011	-36.3	0.796	-179.3
2050	0.890	-167.5	1.63	5.3	0.011	-33.9	0.799	-178.7
2100	0.886	-165.9	1.57	3.3	0.010	-31.3	0.808	-176.8
2150	0.887	-164.1	1.51	1.3	0.009	-27.8	0.816	-175.3
2200	0.891	-162.6	1.46	-0.7	0.009	-23.0	0.818	-173.6
2250	0.895	-161.2	1.40	-2.7	0.009	-19.0	0.822	-171.8
2300	0.897	-159.7	1.36	-4.8	0.008	-14.5	0.828	-170.1
2350	0.898	-158.5	1.31	-6.6	0.008	-9.8	0.833	-168.6
2400	0.896	-157.4	1.27	-8.5	0.008	-5.1	0.835	-167.0
2450	0.890	-155.8	1.23	-10.4	0.008	-0.3	0.836	-165.2
2500	0.890	-154.0	1.19	-12.1	0.008	5.2	0.843	-163.6

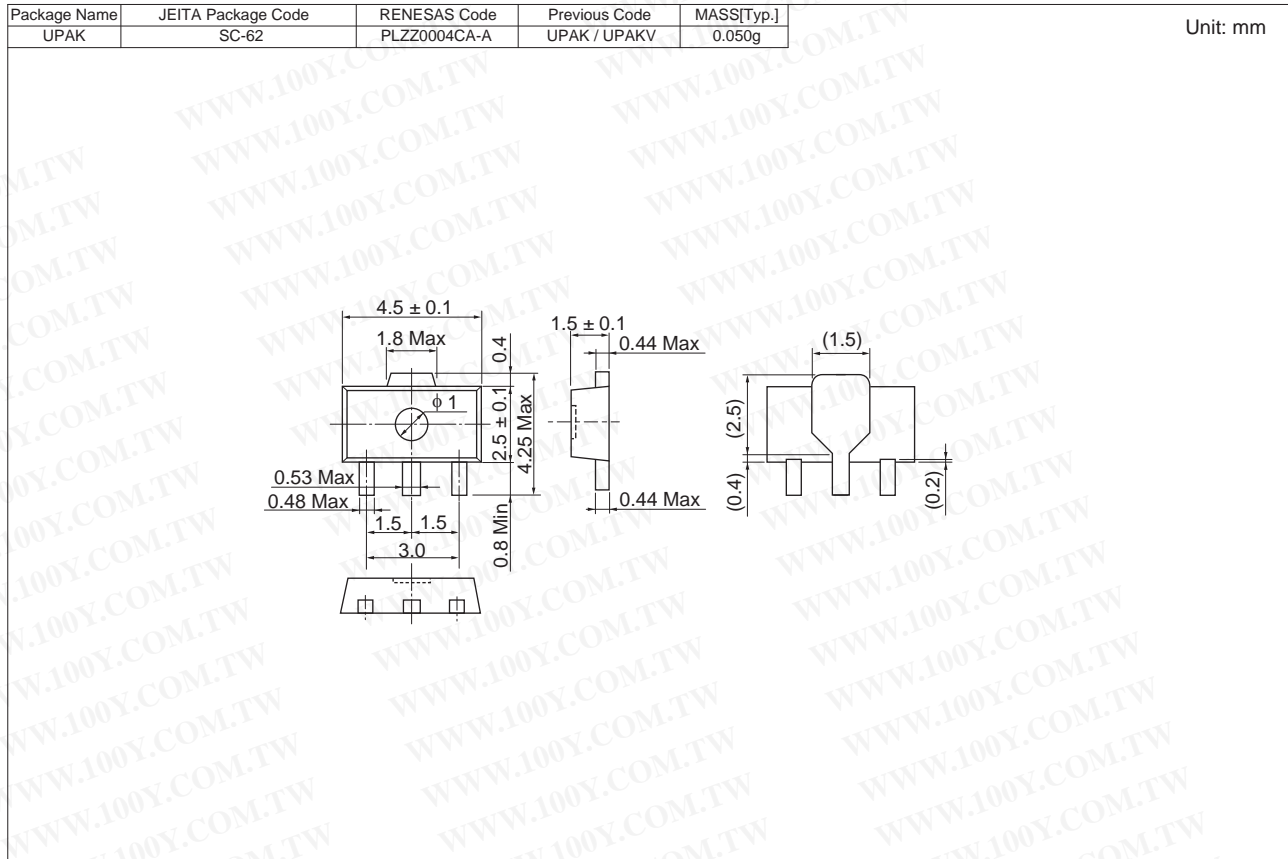


## S Parameter

 $(V_{DS} = 6\text{ V}, I_{DQ} = 100\text{ mA}, Z_o = 50\ \Omega)$ 

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.972	-45.9	22.91	149.6	0.019	65.4	0.615	-34.3
150	0.920	-64.3	19.70	136.4	0.024	48.3	0.597	-55.7
200	0.888	-80.4	17.99	125.8	0.028	37.6	0.560	-70.8
250	0.860	-93.9	16.78	116.9	0.031	29.8	0.534	-82.5
300	0.847	-104.9	14.91	109.3	0.032	23.1	0.517	-91.7
350	0.827	-113.3	13.65	103.1	0.033	16.8	0.517	-99.6
400	0.816	-120.8	12.39	97.3	0.033	11.9	0.511	-106.1
450	0.809	-126.9	11.24	92.4	0.033	7.4	0.512	-111.3
500	0.799	-132.3	10.23	87.7	0.033	3.3	0.513	-115.9
550	0.800	-136.7	9.38	83.4	0.033	-0.3	0.518	-120.0
600	0.801	-140.6	8.68	79.5	0.033	-3.5	0.524	-123.5
650	0.792	-144.0	8.00	75.9	0.032	-6.6	0.531	-126.7
700	0.788	-147.5	7.41	72.3	0.032	-9.3	0.540	-129.7
750	0.790	-150.6	6.89	68.9	0.031	-11.7	0.550	-132.5
800	0.793	-153.5	6.42	65.6	0.031	-14.3	0.558	-135.0
850	0.798	-156.1	5.99	62.3	0.030	-16.5	0.567	-137.5
900	0.801	-158.5	5.62	59.1	0.029	-18.3	0.578	-139.8
950	0.805	-160.5	5.31	56.1	0.028	-20.2	0.588	-142.2
1000	0.809	-162.7	5.03	53.5	0.027	-21.9	0.601	-144.5
1050	0.814	-164.5	4.77	51.1	0.027	-23.6	0.612	-146.5
1100	0.823	-166.3	4.51	48.5	0.026	-25.4	0.622	-148.5
1150	0.829	-168.2	4.29	45.9	0.025	-26.6	0.632	-150.6
1200	0.835	-169.7	4.08	43.7	0.024	-27.9	0.643	-152.6
1250	0.837	-171.0	3.85	41.5	0.023	-28.9	0.653	-154.3
1300	0.836	-172.5	3.65	39.0	0.022	-30.3	0.662	-156.1
1350	0.834	-174.2	3.47	36.4	0.021	-30.8	0.670	-158.1
1400	0.835	-176.1	3.31	33.9	0.021	-31.5	0.681	-159.9
1450	0.837	-177.8	3.15	31.6	0.020	-32.5	0.688	-161.4
1500	0.839	-179.4	3.00	29.4	0.019	-33.0	0.694	-163.4
1550	0.844	179.0	2.88	27.2	0.018	-33.2	0.702	-165.3
1600	0.849	177.7	2.75	25.1	0.017	-32.9	0.711	-167.0
1650	0.850	176.5	2.64	23.1	0.016	-32.8	0.715	-168.7
1700	0.850	174.9	2.53	20.8	0.015	-32.6	0.722	-170.6
1750	0.854	173.0	2.44	18.5	0.015	-31.9	0.731	-172.5
1800	0.861	171.4	2.36	16.4	0.014	-31.0	0.738	-174.1
1850	0.868	170.0	2.27	14.4	0.013	-29.7	0.741	-175.9
1900	0.875	168.7	2.19	12.6	0.012	-28.0	0.749	-177.9
1950	0.881	167.5	2.11	11.0	0.012	-26.0	0.759	-179.4
2000	0.886	166.8	2.03	9.6	0.011	-24.3	0.763	179.0
2050	0.882	166.0	1.95	8.0	0.011	-21.0	0.768	177.1
2100	0.878	164.6	1.87	6.2	0.010	-18.4	0.776	175.3
2150	0.877	163.1	1.80	4.2	0.010	-15.2	0.785	174.0
2200	0.883	161.5	1.74	2.2	0.010	-10.2	0.787	172.3
2250	0.891	159.9	1.68	0.1	0.009	-6.5	0.792	170.6
2300	0.892	158.6	1.63	-1.9	0.010	-2.2	0.799	168.9
2350	0.896	157.7	1.58	-3.8	0.009	1.0	0.804	167.5
2400	0.892	156.4	1.53	-5.7	0.009	4.1	0.806	166.0
2450	0.885	155.1	1.47	-7.5	0.010	7.7	0.810	164.3
2500	0.884	153.0	1.43	-9.4	0.010	11.4	0.816	162.7

## Package Dimensions



## Ordering Information

Part Name	Quantity	Shipping Container
RQA0004LXTL-E	1000 pcs	$\phi 178$ mm reel, 12 mm emboss taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)