To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RQG1003UQAQF

NPN Silicon Germanium Transistor
High Frequency Low Noise Amplifier

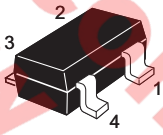
REJ03G1538-0100
Rev.1.00
Jul 20, 2007

Features

- Ideal for LNA applications. e.g. Tuner, Wireless LAN Cordless phone and etc.
- High gain and low noise.
  MSG = 26 dB typ., NF = 0.55 dB typ. at V_{CE} = 2 V, I_C = 10 mA, f = 0.9 GHz
  MSG = 22 dB typ., NF = 0.65 dB typ. at V_{CE} = 2 V, I_C = 10 mA, f = 1.8 GHz
  MSG = 20 dB typ., NF = 0.75 dB typ. at V_{CE} = 2 V, I_C = 10 mA, f = 2.4 GHz
  MSG = 14 dB typ., NF = 1.2 dB typ. at V_{CE} = 2 V, I_C = 10 mA, f = 5.8 GHz
- High transition frequency
  f_T = 36 GHz typ.
- CMPAK-4 (2.0 x 1.25 x 1.1(max) mm)

Outline

RENESAS Package code: PTSP0004ZA-A
(Package name: CMPAK-4)



1. Emitter
2. Collector
3. Emitter
4. Base

Note: Marking is “UQ-”.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	8	V
Collector to emitter voltage	V_{CEO}	3.5	V
Emitter to base voltage	V_{EBO}	1.2	V
Collector current	I_C	35	mA
Collector power dissipation	Pc	100	mW
	Pc	250 note1	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. Value on PCB (FR-4 : 40 x 40 x 1.6mm double side)

Electrical Characteristics

(Ta = 25°C)

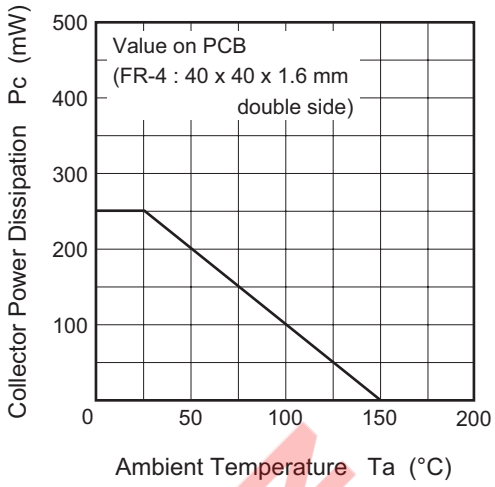
Item		Symbol	Min.	Typ	Max.	Unit	Test Conditions
DC current transfer ratio		h_{FE}	100	200	300	—	V_{CE} = 2 V, I_C = 5 mA
Reverse Transfer Capacitance		C_{re}	—	0.12	—	pF	V_{CB} = 2 V, I_E = 0, f = 1 MHz
Transition Frequency		f_T	—	36	—	GHz	V_{CE} = 2 V, I_C = f_T peak, f = 1 GHz
Forward Transfer Coefficient	0.9 GHz	$\|S21\|^2$	—	24	—	dB	V_{CE} = 2 V, I_C = 10 mA
	1.8 GHz		—	20	—		
	2.4 GHz		—	17	—		
	5.8 GHz		—	10	—		
Maximum Stable Gain note1	0.9 GHz	MSG	—	26	—	dB	V_{CE} = 2 V, I_C = 10 mA
	1.8 GHz		—	22	—		
	2.4 GHz		—	20	—		
	5.8 GHz		—	14	—		
Maximum Available Gain note2	5.8 GHz	MAG	—	11	—	dB	V_{CE} = 2 V, I_C = 10 mA
Power Gain	0.9 GHz	PG	—	23	—	dB	V_{CE} = 2 V, I_C = 10 mA
	1.8 GHz		—	20	—		
	2.4 GHz		—	18	—		
	5.8 GHz		—	10	—		
Noise figure	0.9 GHz	NF	—	0.55	—	dB	V_{CE} = 2 V, I_C = 10 mA
	1.8 GHz		—	0.65	—		
	2.4 GHz		—	0.75	—		
	5.8 GHz		—	1.2	—		

Notes: 1. MSG = $|S_{21}| / |S_{12}|$

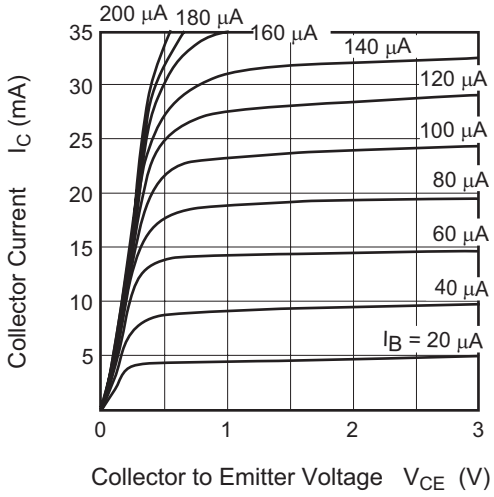
2. MAG = $|S_{21}| / |S_{12}|(K-(K^2-1)^{1/2})$

Main Characteristics

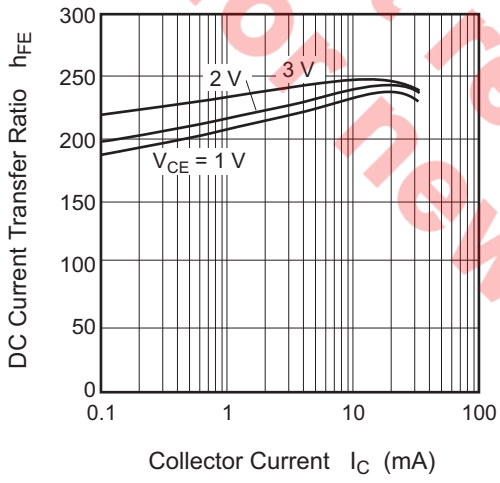
Collector Power Dissipation Curve



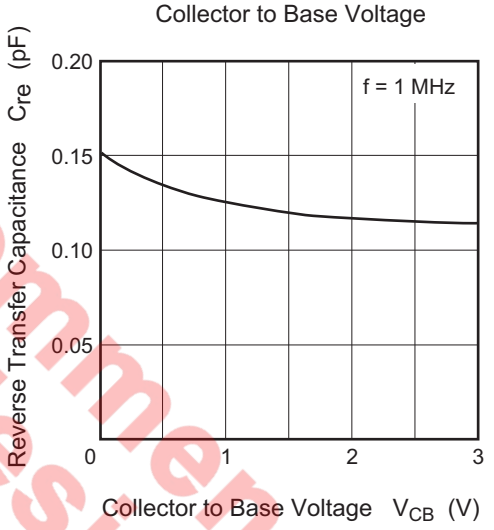
Typical Output Characteristics



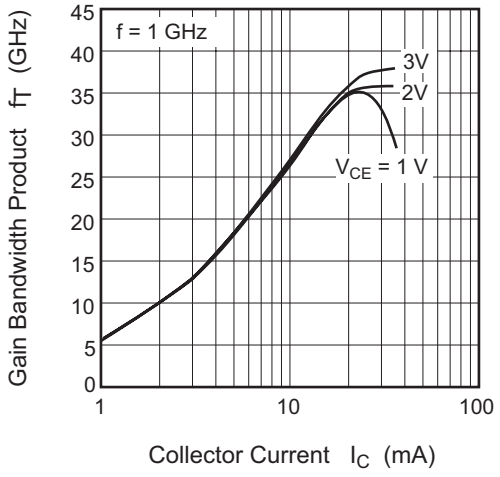
DC Current Transfer Ratio vs.
Collector Current



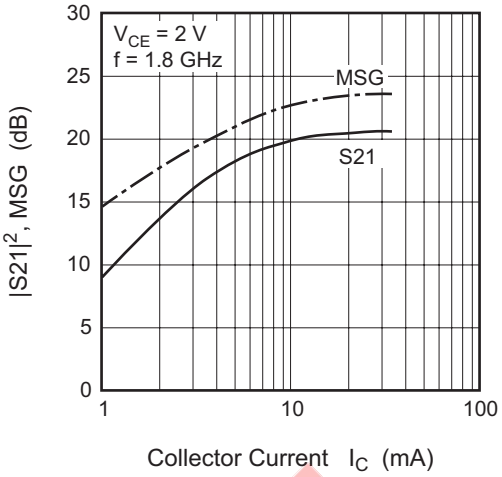
Reverse Transfer Capacitance vs.
Collector to Base Voltage



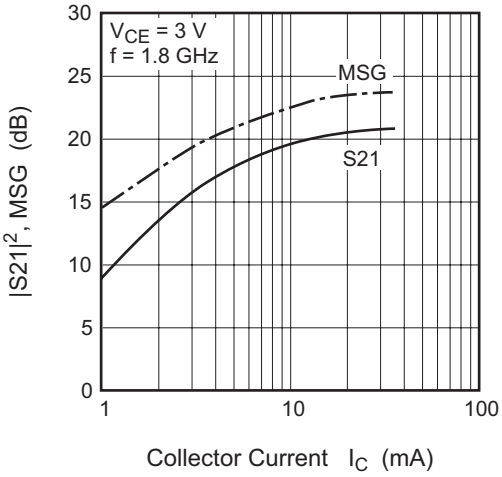
Gain Bandwidth Product vs.
Collector Current



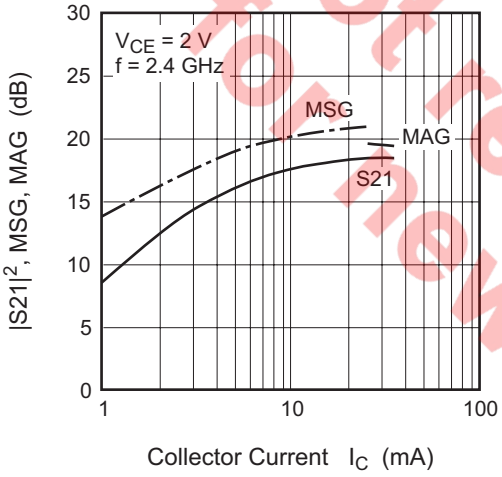
|S21|^2, MSG vs. Collector Current



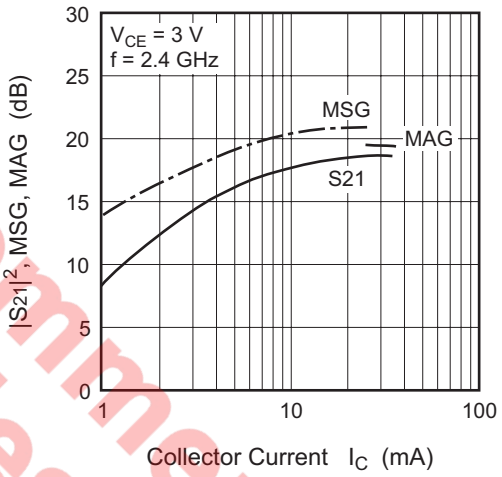
|S21|^2, MSG vs. Collector Current



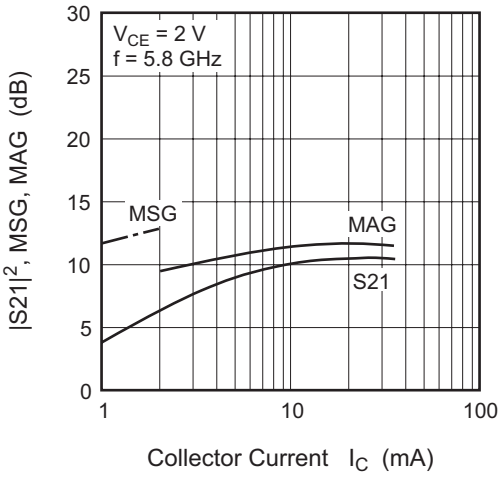
|S21|^2, MSG, MAG vs. Collector Current



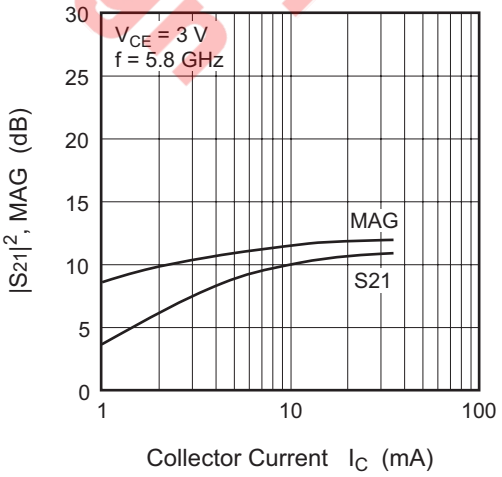
|S21|^2, MSG, MAG vs. Collector Current



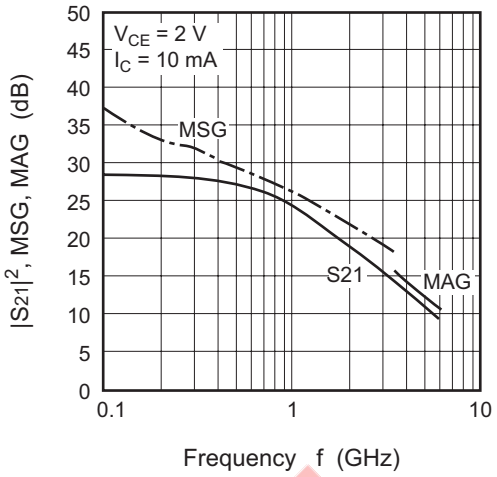
|S21|^2, MSG, MAG vs. Collector Current



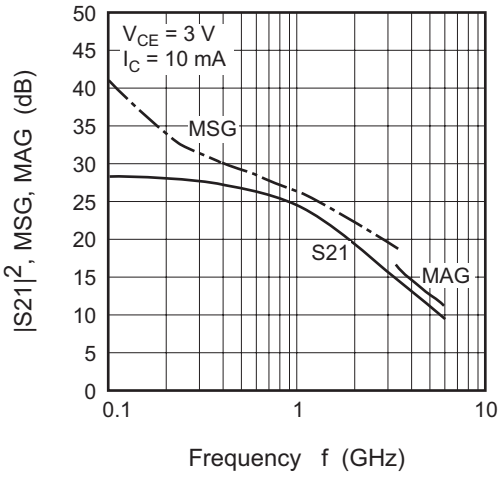
|S21|^2, MAG vs. Collector Current



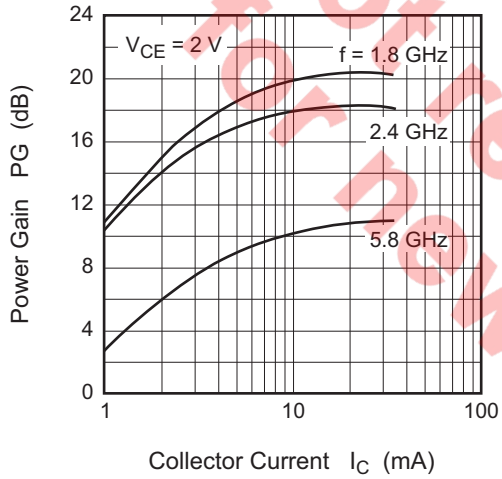
$|S_{21}|^2$, MSG, MAG vs. Frequency



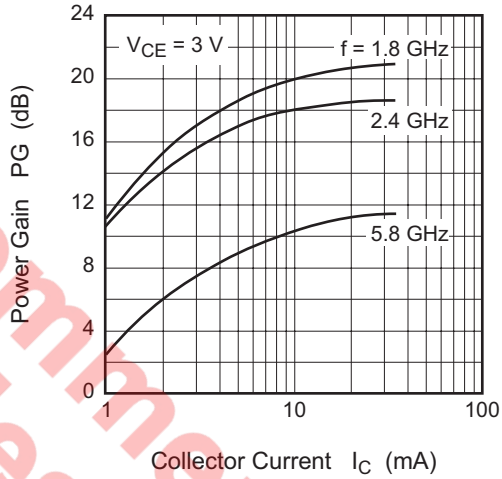
$|S_{21}|^2$, MSG, MAG vs. Frequency



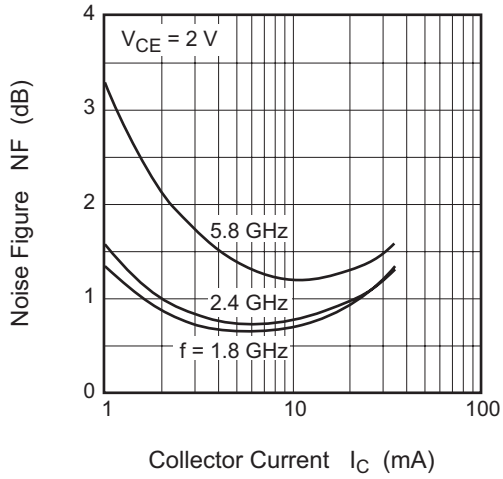
Power Gain vs. Collector Current



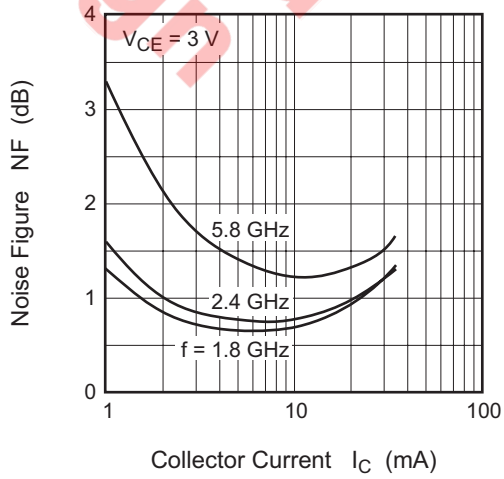
Power Gain vs. Collector Current



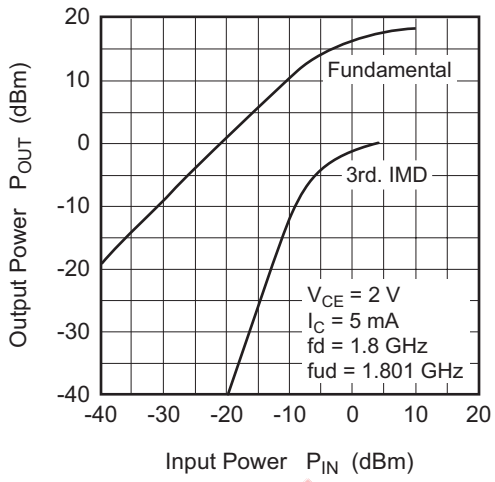
Noise Figure vs. Collector Current



Noise Figure vs. Collector Current



3rd. Order Intercept Point (IP3)



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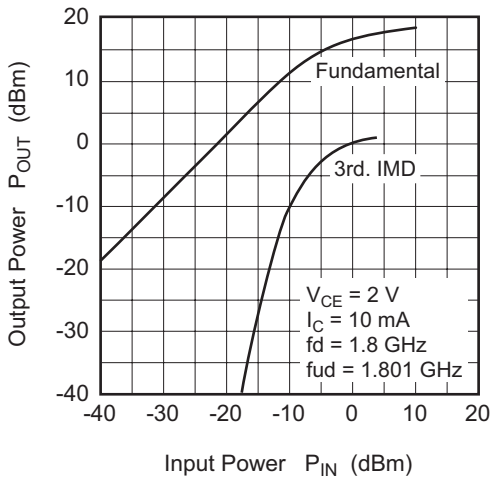

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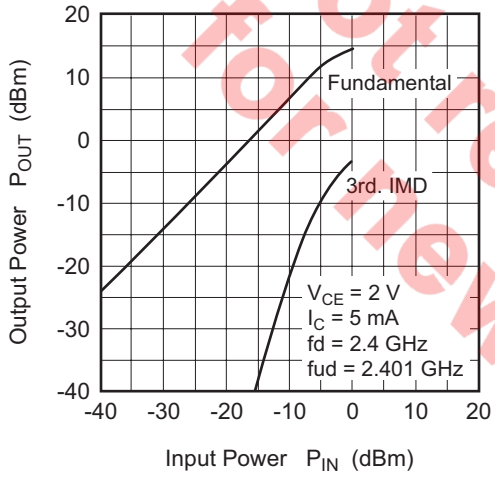

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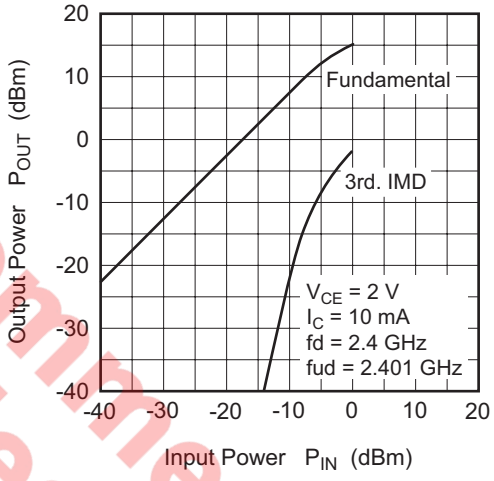

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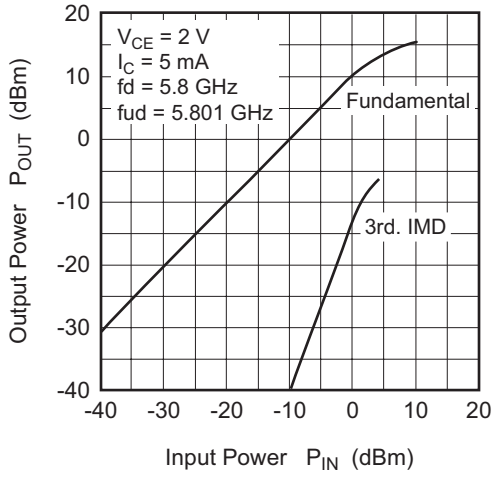

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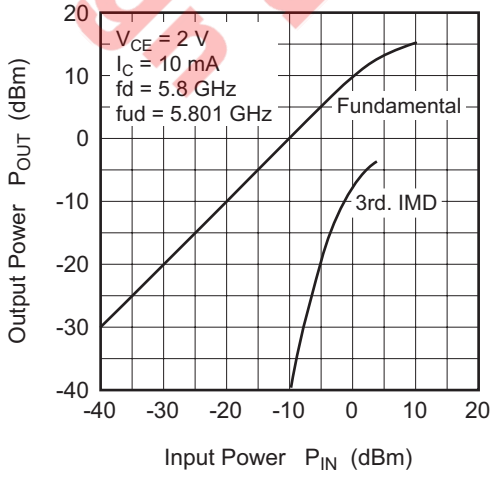

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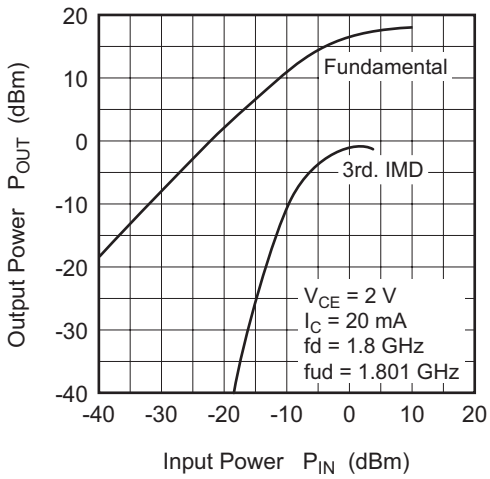

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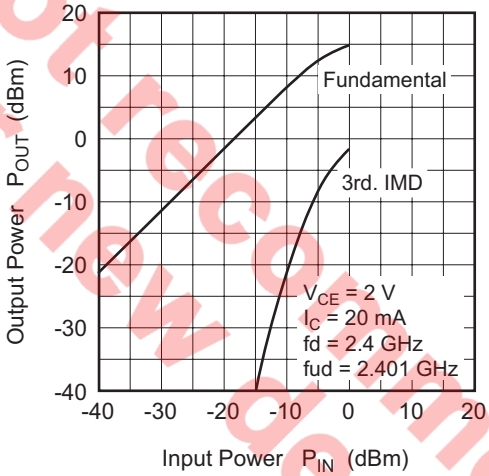

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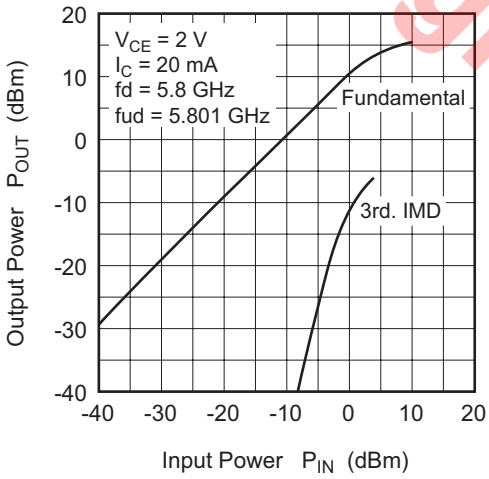
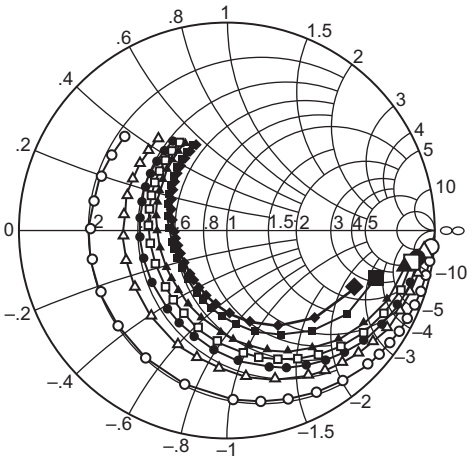


S_{11} Parameter vs. Frequency

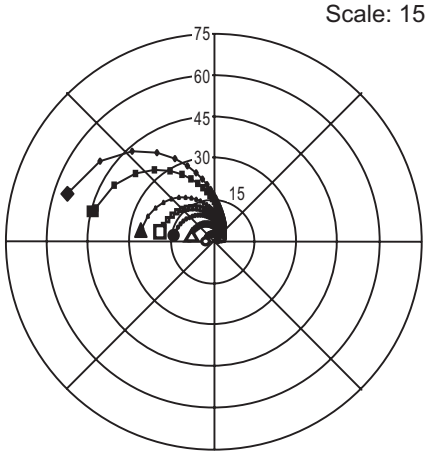


Condition: V_{CE} = 2 V , Zo = 50 Ω
100 to 1000 MHz (100 MHz step)
1000 to 2000 MHz (200 MHz step)
2000 to 6000 MHz (400 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{21} Parameter vs. Frequency

Scale: 15 / div.

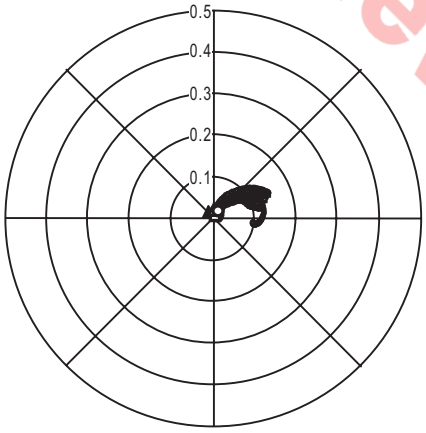


Condition: V_{CE} = 2 V , Zo = 50 Ω
100 to 6000 MHz (100 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{12} Parameter vs. Frequency

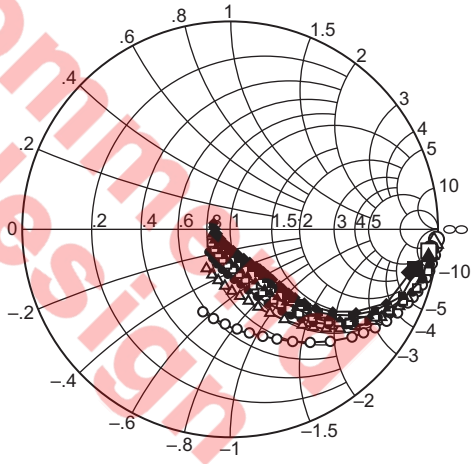
Scale: 0.1 / div.



Condition: V_{CE} = 2 V , Zo = 50 Ω
100 to 6000 MHz (100 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

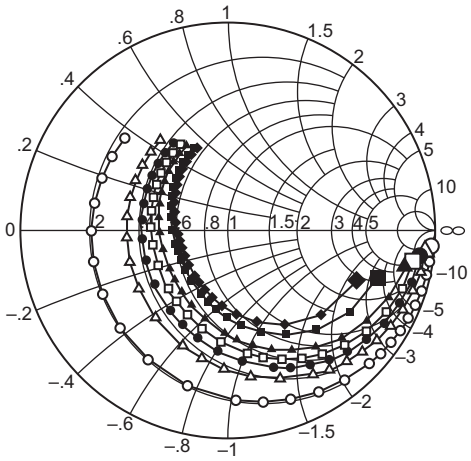
S_{22} Parameter vs. Frequency



Condition: V_{CE} = 2 V , Zo = 50 Ω
100 to 1000 MHz (100 MHz step)
1000 to 2000 MHz (200 MHz step)
2000 to 6000 MHz (400 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{11} Parameter vs. Frequency

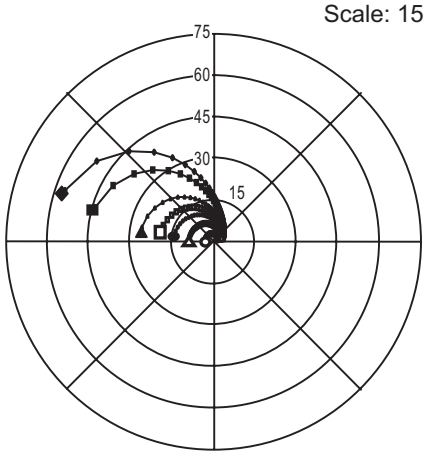


Condition: V_{CE} = 3 V , Zo = 50 Ω
100 to 1000 MHz (100 MHz step)
1000 to 2000 MHz (200 MHz step)
2000 to 6000 MHz (400 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{21} Parameter vs. Frequency

Scale: 15 / div.

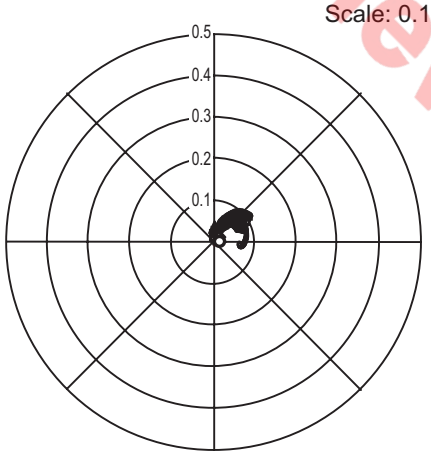


Condition: V_{CE} = 3 V , Zo = 50 Ω
100 to 6000 MHz (100 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{12} Parameter vs. Frequency

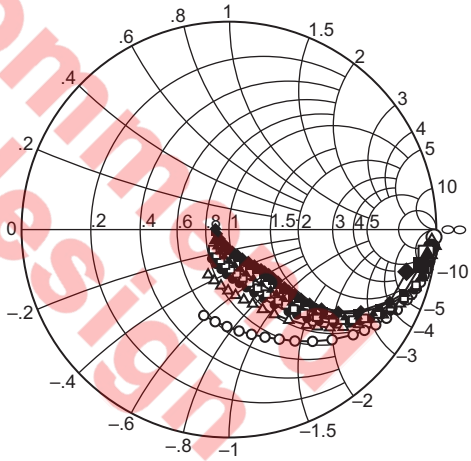
Scale: 0.1 / div.



Condition: V_{CE} = 3 V , Zo = 50 Ω
100 to 6000 MHz (100 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S_{22} Parameter vs. Frequency



Condition: V_{CE} = 3 V , Zo = 50 Ω
100 to 1000 MHz (100 MHz step)
1000 to 2000 MHz (200 MHz step)
2000 to 6000 MHz (400 MHz step)

I_C = 1 mA	I_C = 10 mA
I_C = 3 mA	I_C = 20 mA
I_C = 5 mA	I_C = 30 mA
I_C = 7 mA	

S Parameter

(V_{CE} = 2 V, I_C = 5 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)
100	0.924	-8.2	14.62	172.4	0.0099	95.9	0.974	-5.4
200	0.914	-15.8	14.43	165.5	0.0130	75.7	0.980	-9.9
300	0.891	-23.5	14.11	159.0	0.0191	79.3	0.959	-14.4
400	0.869	-31.3	13.76	152.9	0.0260	72.2	0.932	-18.9
500	0.841	-38.8	13.40	147.2	0.0304	66.8	0.901	-23.1
600	0.812	-46.1	12.99	141.7	0.0359	62.2	0.867	-26.9
700	0.782	-52.8	12.44	136.6	0.0401	59.6	0.831	-30.6
800	0.750	-59.6	12.00	131.6	0.0438	55.7	0.794	-33.8
900	0.718	-66.7	11.63	127.1	0.0465	55.1	0.758	-36.6
1000	0.686	-73.0	11.14	122.5	0.0499	52.2	0.723	-39.3
1100	0.657	-79.0	10.66	118.4	0.0521	48.3	0.692	-41.7
1200	0.626	-85.3	10.25	114.2	0.0552	46.8	0.659	-44.0
1300	0.600	-91.0	9.79	110.4	0.0572	45.4	0.630	-46.0
1400	0.577	-96.5	9.36	106.9	0.0596	44.0	0.603	-48.0
1500	0.555	-102.0	8.98	103.6	0.0606	42.4	0.576	-49.8
1600	0.534	-107.4	8.61	100.3	0.0624	41.6	0.551	-51.3
1700	0.516	-112.6	8.25	97.3	0.0644	39.9	0.527	-52.9
1800	0.501	-117.6	7.91	94.4	0.0661	38.9	0.506	-54.3
1900	0.487	-122.6	7.60	91.6	0.0664	37.9	0.486	-55.8
2000	0.474	-127.4	7.31	88.9	0.0684	36.9	0.467	-57.2
2200	0.455	-136.6	6.77	83.8	0.0711	35.6	0.432	-59.8
2400	0.441	-145.5	6.29	79.0	0.0732	34.7	0.402	-62.3
2600	0.430	-153.9	5.88	74.5	0.0753	33.4	0.374	-64.9
2800	0.424	-161.7	5.51	70.3	0.0783	32.9	0.349	-67.4
3000	0.422	-169.0	5.17	66.2	0.0802	31.6	0.326	-70.0
3200	0.422	-175.9	4.87	62.2	0.0825	30.7	0.306	-72.8
3400	0.423	177.7	4.60	58.4	0.0853	30.1	0.286	-75.7
3600	0.424	171.7	4.35	54.7	0.0875	29.6	0.269	-78.2
3800	0.427	166.5	4.13	51.3	0.0892	29.2	0.253	-81.2
4000	0.434	161.3	3.93	47.8	0.0927	28.5	0.241	-84.6
4200	0.440	156.4	3.75	44.4	0.0957	27.7	0.228	-88.4
4400	0.446	151.9	3.58	41.0	0.0985	26.9	0.216	-92.3
4600	0.454	147.6	3.43	37.7	0.1015	25.8	0.205	-96.1
4800	0.460	143.5	3.29	34.4	0.1047	24.6	0.195	-100.3
5000	0.467	139.3	3.16	31.2	0.1073	23.6	0.185	-104.8
5200	0.475	135.6	3.04	28.0	0.1102	22.8	0.176	-109.6
5400	0.481	131.9	2.93	24.8	0.1138	21.3	0.168	-114.9
5600	0.489	128.3	2.82	21.7	0.1171	20.5	0.161	-120.1
5800	0.497	124.7	2.72	18.5	0.1201	18.8	0.154	-125.8
6000	0.504	121.4	2.63	15.4	0.1242	17.9	0.148	-132.1

S Parameter

(V_{CE} = 2 V, I_C = 10 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)
100	0.871	-11.8	26.57	169.1	0.0044	49.5	0.961	-7.8
200	0.837	-23.4	25.71	159.4	0.0127	77.4	0.953	-14.8
300	0.793	-34.2	24.48	150.6	0.0170	74.2	0.906	-21.3
400	0.749	-44.4	23.16	142.8	0.0219	67.3	0.850	-27.0
500	0.698	-54.1	21.80	135.6	0.0265	63.8	0.797	-31.9
600	0.650	-63.4	20.39	129.1	0.0297	59.2	0.743	-35.9
700	0.607	-71.5	18.95	123.4	0.0333	56.8	0.689	-39.5
800	0.564	-79.4	17.66	118.1	0.0359	54.1	0.642	-42.3
900	0.527	-86.9	16.50	113.5	0.0373	52.8	0.600	-44.7
1000	0.494	-93.6	15.39	109.2	0.0405	51.4	0.563	-46.9
1100	0.467	-100.2	14.38	105.4	0.0416	50.1	0.529	-48.6
1200	0.441	-106.5	13.49	101.8	0.0433	49.7	0.498	-50.2
1300	0.419	-112.2	12.66	98.5	0.0452	48.3	0.470	-51.7
1400	0.402	-117.9	11.92	95.5	0.0483	48.4	0.446	-52.9
1500	0.386	-123.6	11.26	92.7	0.0497	48.8	0.423	-54.2
1600	0.374	-129.0	10.66	90.0	0.0514	48.6	0.402	-55.2
1700	0.364	-133.8	10.11	87.5	0.0530	47.3	0.384	-56.3
1800	0.356	-138.9	9.61	85.0	0.0546	47.2	0.366	-57.2
1900	0.348	-143.6	9.16	82.7	0.0569	46.8	0.350	-58.4
2000	0.343	-148.3	8.74	80.5	0.0582	46.7	0.335	-59.4
2200	0.337	-157.0	8.01	76.3	0.0617	45.8	0.308	-61.5
2400	0.334	-165.1	7.38	72.3	0.0652	45.9	0.285	-63.7
2600	0.335	-172.4	6.84	68.5	0.0698	44.1	0.262	-66.2
2800	0.338	-179.4	6.37	64.9	0.0730	43.6	0.242	-68.7
3000	0.342	174.5	5.96	61.3	0.0772	42.9	0.225	-71.3
3200	0.349	168.6	5.59	57.9	0.0801	42.0	0.209	-74.6
3400	0.354	163.2	5.27	54.5	0.0840	41.1	0.192	-77.9
3600	0.361	158.2	4.97	51.3	0.0885	39.4	0.177	-81.0
3800	0.367	153.9	4.71	48.3	0.0918	38.7	0.167	-84.4
4000	0.377	149.7	4.48	45.2	0.0962	37.8	0.155	-89.2
4200	0.386	145.7	4.27	42.1	0.1007	36.1	0.144	-93.9
4400	0.394	141.9	4.08	39.0	0.1038	34.8	0.134	-99.2
4600	0.404	138.3	3.90	36.0	0.1081	33.1	0.126	-104.9
4800	0.411	134.8	3.74	33.1	0.1119	31.5	0.118	-111.4
5000	0.420	131.3	3.59	30.1	0.1163	30.4	0.111	-117.9
5200	0.429	128.1	3.45	27.1	0.1196	28.7	0.105	-125.8
5400	0.437	125.0	3.32	24.1	0.1237	26.9	0.100	-134.2
5600	0.446	121.8	3.20	21.2	0.1275	25.5	0.096	-142.6
5800	0.454	118.8	3.09	18.3	0.1307	23.7	0.094	-151.2
6000	0.462	115.8	2.98	15.4	0.1353	21.8	0.093	-161.0

S Parameter

(V_{CE} = 3 V, I_C = 5 mA, Z_O = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)
100	0.932	-7.5	14.49	172.5	0.0014	85.0	0.978	-5.0
200	0.919	-15.7	14.33	165.7	0.0097	82.5	0.979	-9.5
300	0.896	-22.9	14.03	159.3	0.0184	73.4	0.959	-13.7
400	0.875	-30.7	13.71	153.3	0.0248	71.7	0.934	-18.0
500	0.847	-38.2	13.37	147.6	0.0295	69.0	0.905	-22.0
600	0.817	-45.4	12.98	142.3	0.0337	63.4	0.873	-25.6
700	0.789	-51.9	12.45	137.2	0.0379	60.3	0.839	-29.2
800	0.756	-58.6	12.02	132.2	0.0422	56.7	0.803	-32.3
900	0.724	-65.6	11.67	127.7	0.0441	53.0	0.768	-35.0
1000	0.693	-71.7	11.19	123.1	0.0479	51.4	0.735	-37.5
1100	0.663	-77.8	10.72	119.0	0.0506	50.1	0.704	-39.8
1200	0.632	-83.9	10.32	114.8	0.0523	47.7	0.673	-41.9
1300	0.605	-89.5	9.86	111.0	0.0548	45.5	0.643	-43.9
1400	0.582	-95.0	9.44	107.6	0.0569	44.5	0.617	-45.7
1500	0.558	-100.6	9.06	104.2	0.0582	43.1	0.591	-47.4
1600	0.537	-106.0	8.69	100.9	0.0605	41.7	0.567	-48.8
1700	0.518	-111.1	8.33	97.8	0.0610	40.2	0.545	-50.4
1800	0.502	-116.0	8.00	94.9	0.0634	39.5	0.523	-51.8
1900	0.487	-121.0	7.68	92.1	0.0642	38.9	0.503	-53.2
2000	0.475	-126.0	7.39	89.4	0.0655	38.0	0.485	-54.4
2200	0.454	-135.0	6.85	84.3	0.0683	36.6	0.451	-56.9
2400	0.438	-144.0	6.37	79.6	0.0704	35.6	0.421	-59.2
2600	0.428	-152.3	5.95	75.1	0.0731	34.1	0.393	-61.5
2800	0.421	-160.2	5.58	70.8	0.0749	33.7	0.369	-63.9
3000	0.418	-167.5	5.24	66.7	0.0780	32.5	0.348	-66.3
3200	0.417	-174.5	4.93	62.7	0.0789	31.6	0.327	-68.8
3400	0.418	179.0	4.66	58.9	0.0819	31.3	0.309	-71.4
3600	0.418	172.9	4.41	55.3	0.0834	30.6	0.291	-73.9
3800	0.422	167.6	4.19	51.9	0.0864	30.3	0.275	-76.6
4000	0.428	162.3	3.99	48.4	0.0892	29.7	0.263	-79.8
4200	0.433	157.5	3.81	44.9	0.0921	28.2	0.250	-83.0
4400	0.439	152.8	3.64	41.5	0.0950	27.8	0.238	-86.6
4600	0.447	148.5	3.49	38.3	0.0980	26.9	0.227	-90.1
4800	0.453	144.2	3.34	35.0	0.1014	25.9	0.217	-93.9
5000	0.461	140.2	3.21	31.8	0.1041	25.4	0.206	-97.8
5200	0.468	136.3	3.09	28.6	0.1072	24.2	0.196	-102.2
5400	0.475	132.7	2.98	25.4	0.1099	23.0	0.188	-106.9
5600	0.483	129.1	2.87	22.2	0.1131	21.9	0.179	-111.4
5800	0.489	125.5	2.77	19.1	0.1161	20.5	0.172	-116.5
6000	0.497	122.1	2.68	16.0	0.1207	19.5	0.164	-121.9

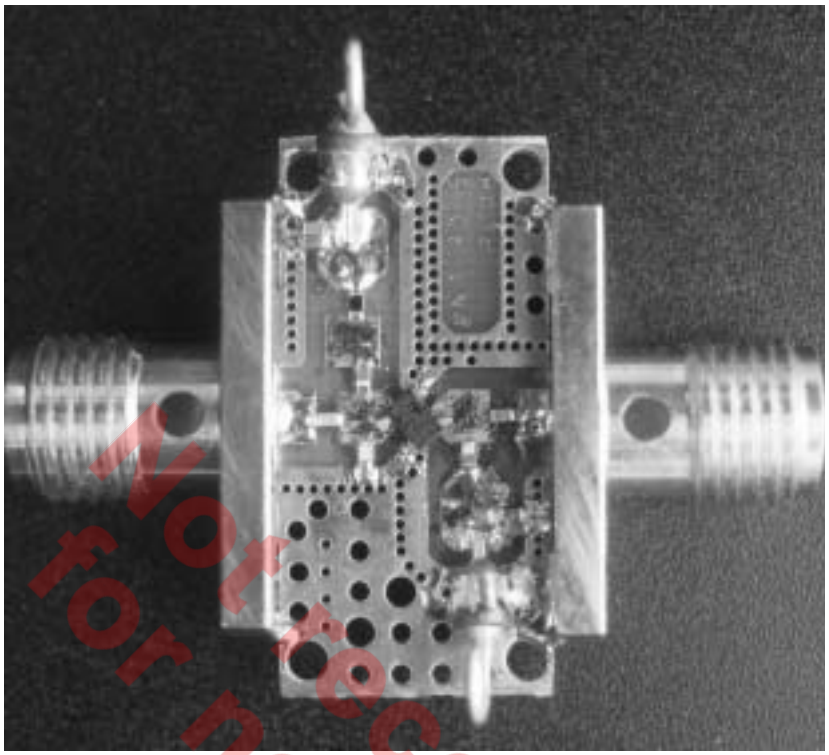
S Parameter

(V_{CE} = 3 V, I_C = 10 mA, Z_O = 50 Ω)

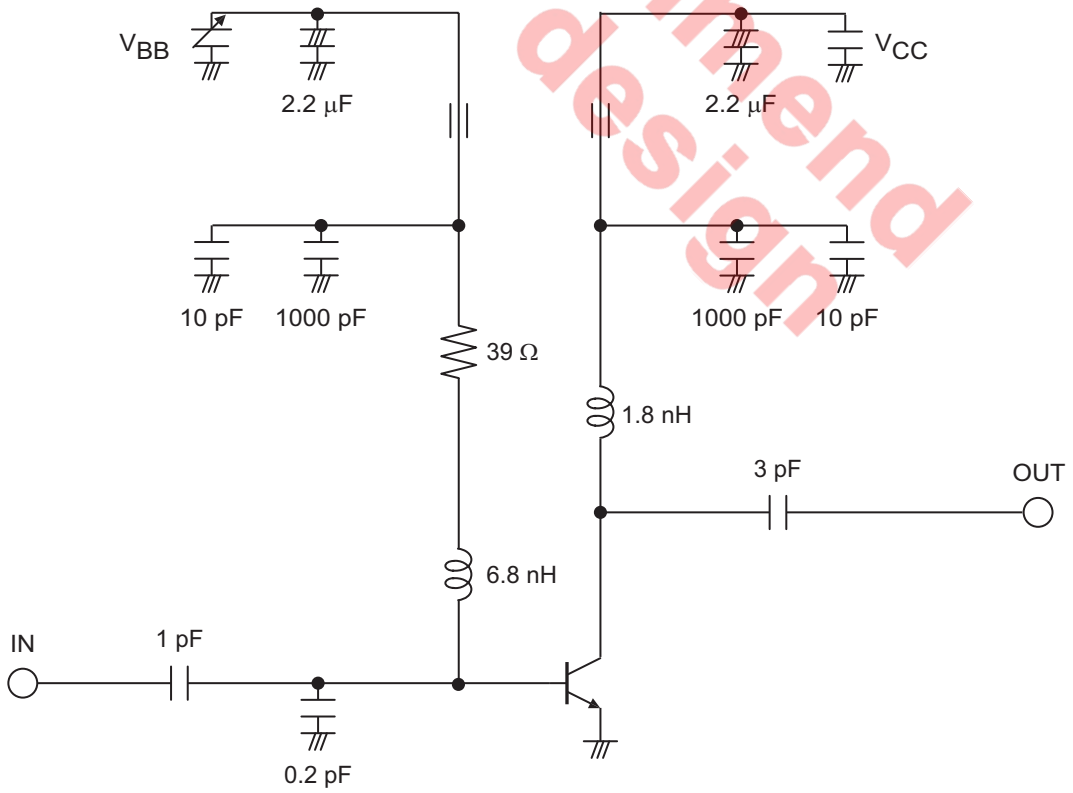
f (MHz)	S11		S21		S12		S22	
	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)	MAG	ANG(deg.)
100	0.869	-11.8	26.56	169.2	0.0022	69.6	0.963	-7.5
200	0.841	-22.8	25.72	159.7	0.0116	75.7	0.951	-14.1
300	0.799	-33.3	24.52	151.0	0.0173	70.7	0.907	-20.2
400	0.755	-43.5	23.24	143.3	0.0235	70.7	0.857	-25.6
500	0.704	-53.1	21.90	136.1	0.0256	63.7	0.804	-30.4
600	0.655	-62.0	20.51	129.7	0.0297	60.4	0.751	-34.2
700	0.612	-70.0	19.10	124.0	0.0318	57.3	0.701	-37.5
800	0.569	-77.9	17.81	118.7	0.0340	54.8	0.654	-40.2
900	0.530	-85.4	16.66	114.1	0.0361	51.3	0.614	-42.6
1000	0.497	-91.9	15.56	109.8	0.0390	52.3	0.577	-44.5
1100	0.469	-98.4	14.54	106.0	0.0410	50.0	0.543	-46.1
1200	0.442	-104.7	13.66	102.3	0.0426	50.7	0.514	-47.6
1300	0.420	-110.3	12.82	99.1	0.0445	49.3	0.487	-48.9
1400	0.402	-116.0	12.08	96.1	0.0462	49.0	0.464	-50.1
1500	0.386	-121.6	11.41	93.2	0.0473	48.7	0.441	-51.2
1600	0.372	-126.9	10.80	90.5	0.0497	48.4	0.421	-52.0
1700	0.361	-132.0	10.25	88.0	0.0514	48.3	0.402	-53.1
1800	0.352	-137.0	9.75	85.5	0.0526	47.6	0.386	-54.0
1900	0.345	-141.6	9.29	83.2	0.0545	47.3	0.370	-55.0
2000	0.338	-146.4	8.87	81.0	0.0559	47.1	0.355	-55.9
2200	0.331	-155.2	8.13	76.8	0.0600	46.3	0.329	-57.8
2400	0.328	-163.3	7.49	72.8	0.0634	45.6	0.305	-59.7
2600	0.327	-171.0	6.95	69.0	0.0670	44.7	0.284	-62.0
2800	0.330	-177.8	6.48	65.3	0.0703	44.2	0.264	-64.2
3000	0.335	175.8	6.06	61.8	0.0751	43.9	0.246	-66.5
3200	0.340	169.9	5.69	58.4	0.0783	42.9	0.230	-69.5
3400	0.347	164.2	5.36	55.0	0.0810	41.4	0.215	-72.1
3600	0.352	159.2	5.05	51.9	0.0845	40.3	0.199	-74.7
3800	0.358	154.8	4.79	48.8	0.0884	39.3	0.188	-77.9
4000	0.368	150.6	4.56	45.7	0.0937	38.7	0.177	-81.9
4200	0.376	146.6	4.35	42.6	0.0974	37.2	0.165	-85.8
4400	0.385	142.7	4.15	39.6	0.1011	36.0	0.154	-90.4
4600	0.394	139.0	3.97	36.6	0.1050	34.3	0.145	-95.0
4800	0.402	135.5	3.81	33.6	0.1087	32.8	0.136	-100.1
5000	0.411	132.1	3.65	30.6	0.1125	31.6	0.127	-105.6
5200	0.420	128.7	3.51	27.7	0.1171	29.7	0.119	-112.1
5400	0.428	125.6	3.38	24.7	0.1206	28.2	0.112	-118.8
5600	0.437	122.5	3.26	21.8	0.1242	26.8	0.106	-126.1
5800	0.444	119.5	3.15	18.9	0.1280	24.7	0.102	-134.1
6000	0.453	116.4	3.04	15.9	0.1322	23.1	0.097	-142.1

RQG1003 5.8 GHz Evaluation Board

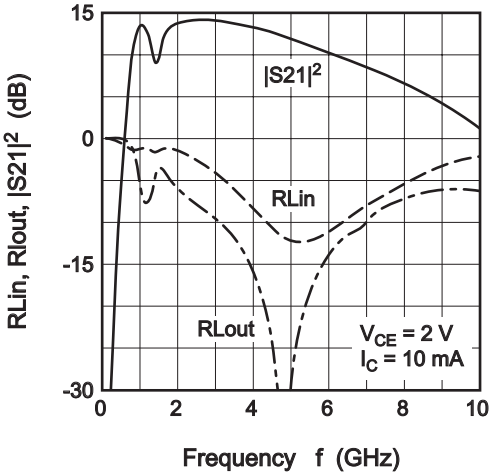
Evaluation Board Pattern Layout



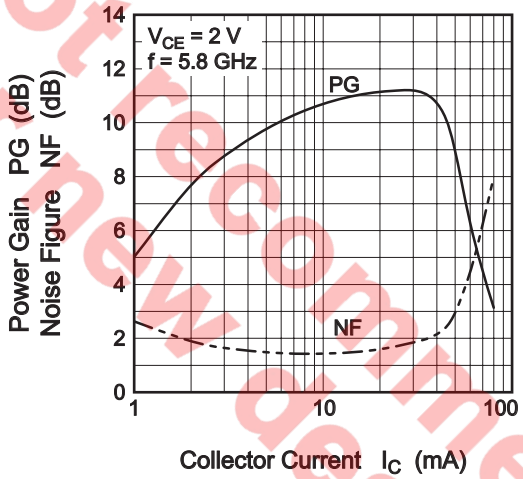
Circuit



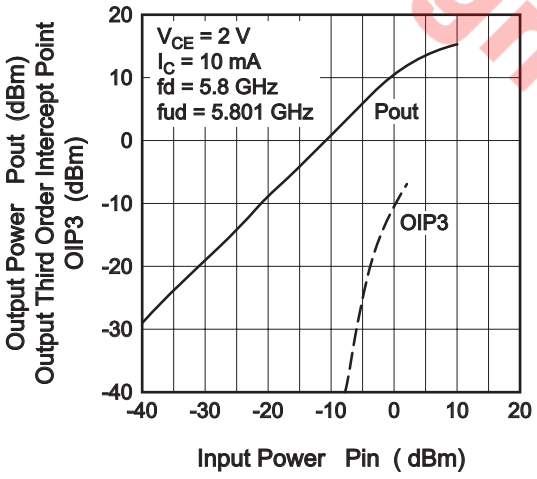
RLin, Rlout, $|S21|^2$ vs f



PG, NF vs I_C

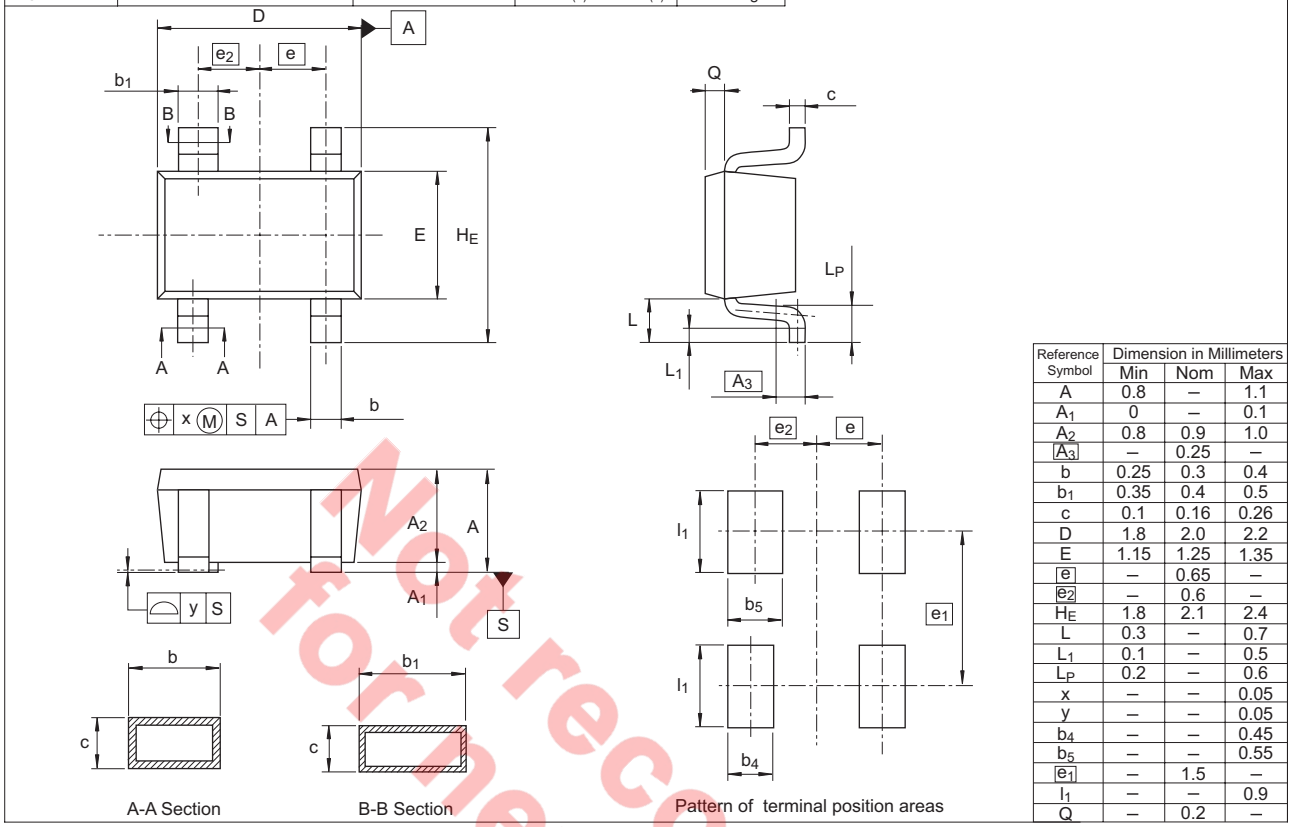


Pout, OIP3 vs Pin



Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
CMPAK-4	SC-82AB	PTSP0004ZA-A	CMPAK-4(T) / CMPAK-4(T)V	0.006g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.8	–	1.1
A_1	0	–	0.1
A_2	0.8	0.9	1.0
A_3	–	0.25	–
b	0.25	0.3	0.4
b_1	0.35	0.4	0.5
c	0.1	0.16	0.26
D	1.8	2.0	2.2
E	1.15	1.25	1.35
e	–	0.65	–
e_2	–	0.6	–
H_E	1.8	2.1	2.4
L	0.3	–	0.7
L_1	0.1	–	0.5
L_P	0.2	–	0.6
x	–	–	0.05
y	–	–	0.05
b_4	–	–	0.45
b_5	–	–	0.55
e_1	–	1.5	–
l_1	–	–	0.9
Q	–	0.2	–

Ordering Information

Part No.	Quantity	Shipping Container
RQG1003UQ-TL-E	3000 pcs	ϕ178 mm reel, 8 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.

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

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Renesas Technology America, Inc.
450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.
Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology Singapore Pte. Ltd.
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510

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