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)

Send any inquiries to http://www.renesas.com/inquiry.

Notice

1. All information included in this document is current as of the date this document is issued. Such information, however, is subject to change without any prior notice. Before purchasing or using any Renesas Electronics products listed herein, please confirm the latest product information with a Renesas Electronics sales office. Also, please pay regular and careful attention to additional and different information to be disclosed by Renesas Electronics such as that disclosed through our website.
2. Renesas Electronics does not assume any liability for infringement of patents, copyrights, or other intellectual property rights of third parties by or arising from the use of Renesas Electronics products or technical information described in this document. No license, express, implied or otherwise, is granted hereby under any patents, copyrights or other intellectual property rights of Renesas Electronics or others.
3. You should not alter, modify, copy, or otherwise misappropriate any Renesas Electronics product, whether in whole or in part.
4. Descriptions of circuits, software and other related information in this document are provided only to illustrate the operation of semiconductor products and application examples. You are fully responsible for the incorporation of these circuits, software, and information in the design of your equipment. Renesas Electronics assumes no responsibility for any losses incurred by you or third parties arising from the use of these circuits, software, or information.
5. When exporting the products or technology described in this document, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations. You should not use Renesas Electronics products or the technology described in this document for any purpose relating to military applications or use by the military, including but not limited to the development of weapons of mass destruction. Renesas Electronics products and technology may not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable domestic or foreign laws or regulations.
6. Renesas Electronics has used reasonable care in preparing the information included in this document, but Renesas Electronics does not warrant that such information is error free. Renesas Electronics assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.
7. Renesas Electronics products are classified according to the following three quality grades: "Standard", "High Quality", and "Specific". The recommended applications for each Renesas Electronics product depends on the product's quality grade, as indicated below. You must check the quality grade of each Renesas Electronics product before using it in a particular application. You may not use any Renesas Electronics product for any application categorized as "Specific" without the prior written consent of Renesas Electronics. Further, you may not use any Renesas Electronics product for any application for which it is not intended without the prior written consent of Renesas Electronics. Renesas Electronics shall not be in any way liable for any damages or losses incurred by you or third parties arising from the use of any Renesas Electronics product for an application categorized as "Specific" or for which the product is not intended where you have failed to obtain the prior written consent of Renesas Electronics. The quality grade of each Renesas Electronics product is "Standard" unless otherwise expressly specified in a Renesas Electronics data sheets or data books, etc.

   "Standard": Computers; office equipment; communications equipment; test and measurement equipment; audio and visual equipment; home electronic appliances; machine tools; personal electronic equipment; and industrial robots.

   "High Quality": Transportation equipment (automobiles, trains, ships, etc.); traffic control systems; anti-disaster systems; anti-crime systems; safety equipment; and medical equipment not specifically designed for life support.

   "Specific": Aircraft; aerospace equipment; submersible repeaters; nuclear reactor control systems; medical equipment or systems for life support (e.g. artificial life support devices or systems), surgical implantations, or healthcare intervention (e.g. excision, etc.), and any other applications or purposes that pose a direct threat to human life.
8. You should use the Renesas Electronics products described in this document within the range specified by Renesas Electronics, especially with respect to the maximum rating, operating supply voltage range, movement power voltage range, heat radiation characteristics, installation and other product characteristics. Renesas Electronics shall have no liability for malfunctions or damages arising out of the use of Renesas Electronics products beyond such specified ranges.
9. Although Renesas Electronics endeavors to improve the quality and reliability of its products, semiconductor products have specific characteristics such as the occurrence of failure at a certain rate and malfunctions under certain use conditions. Further, Renesas Electronics products are not subject to radiation resistance design. Please be sure to implement safety measures to guard them against the possibility of physical injury, and injury or damage caused by fire in the event of the failure of a Renesas Electronics product, such as safety design for hardware and software including but not limited to redundancy, fire control and malfunction prevention, appropriate treatment for aging degradation or any other appropriate measures. Because the evaluation of microcomputer software alone is very difficult, please evaluate the safety of the final products or system manufactured by you.
10. Please contact a Renesas Electronics sales office for details as to environmental matters such as the environmental compatibility of each Renesas Electronics product. Please use Renesas Electronics products in compliance with all applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive. Renesas Electronics assumes no liability for damages or losses occurring as a result of your noncompliance with applicable laws and regulations.
11. This document may not be reproduced or duplicated, in any form, in whole or in part, without prior written consent of Renesas Electronics.
12. Please contact a Renesas Electronics sales office if you have any questions regarding the information contained in this document or Renesas Electronics products, or if you have any other inquiries.

(Note 1) "Renesas Electronics" as used in this document means Renesas Electronics Corporation and also includes its majority-owned subsidiaries.

(Note 2) "Renesas Electronics product(s)" means any product developed or manufactured by or for Renesas Electronics.

2SK3391

Silicon N-Channel MOS FET
UHF Power Amplifier

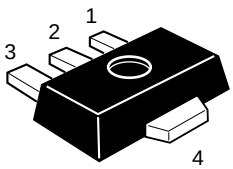
REJ03G0209-0300
Rev.3.00
Nov 08, 2007

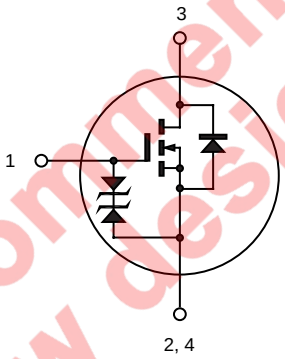
Features

- High power output, High gain, High efficiency
  PG = 18 dB, Pout = 1.6 W, ηadd = 58% min. (f = 836 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 “JX”.

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	17	V
Gate to source voltage	V_{GSS}	±10	V
Drain current	I_D	0.3	A
Drain peak current	I_D(pulse) Note1	0.75	A
Channel dissipation	Pch Note2	5	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–45 to +150	°C

Notes: 1. PW < 1sec, Tch < 150°C
2. Value at Tc = 25°C

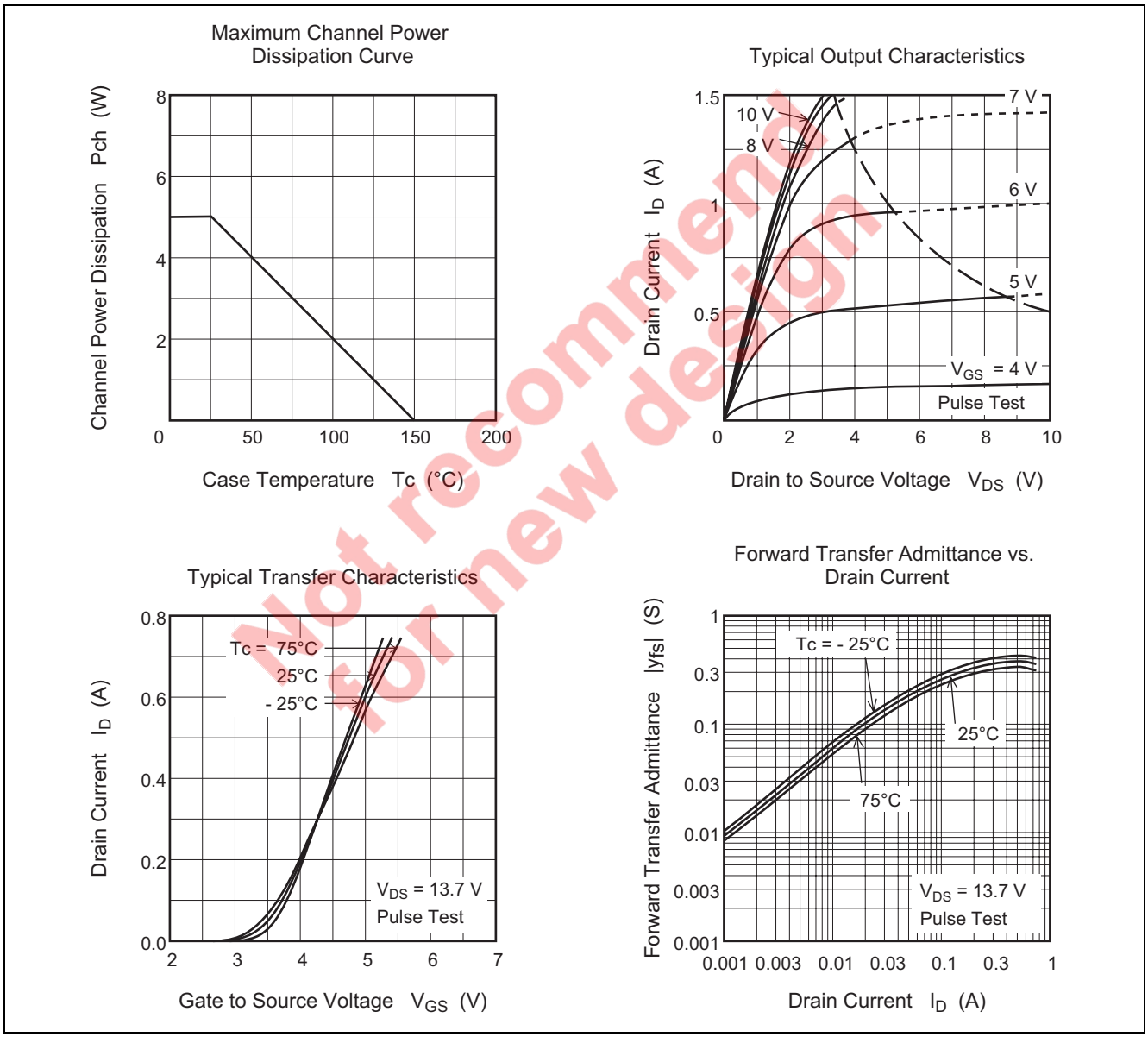
This device is sensitive to electro static discharge. An adequate careful handling procedure is requested.

Electrical Characteristics

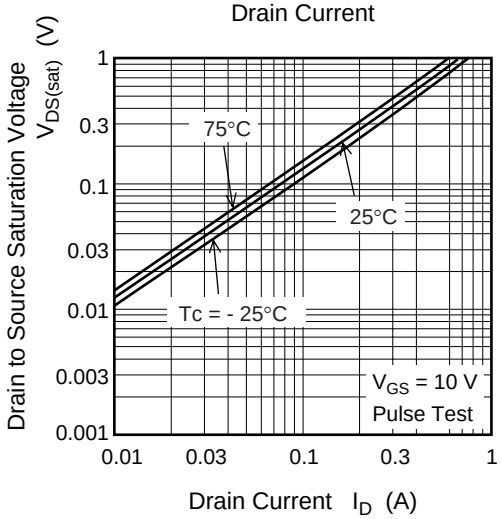
(Ta = 25°C)

Item	Symbol	Min.	Typ	Max.	Unit	Test Conditions
Zero gate voltage drain current	I_{DSS}	—	—	10	µA	V_{DS} = 13.7 V, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±5	µA	V_{GS} = ±10 V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	2.3	—	3.1	V	V_{DS} = 13.7 V, I_D = 1 mA
Input capacitance	Ciss	—	10	—	pF	V_{GS} = 5 V, V_{DS} = 0, f = 1 MHz
Output capacitance	Coss	—	3.5	—	pF	V_{DS} = 13.7 V, V_{GS} = 0, f = 1 MHz
Output Power	Pout	1.6	—	—	W	V_{DS} = 13.7 V, I_{DQ} = 150 mA
Added Efficiency	ηadd	58	—	—	%	f = 836 MHz, Pin = 25.1 mW

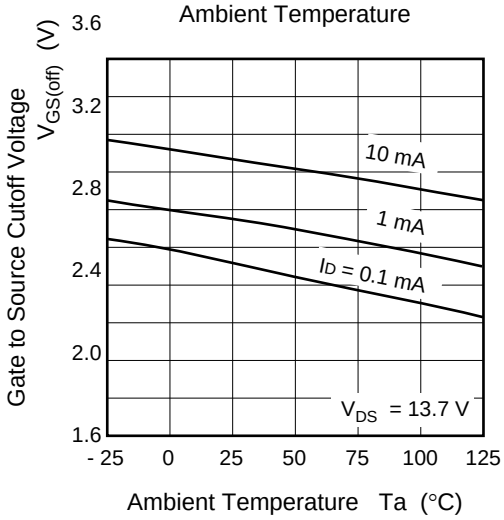
Main Characteristics



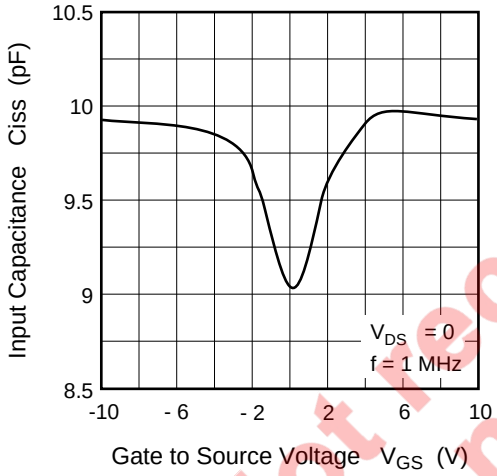
Drain to Source Saturatioin Voltage vs. Drain Current



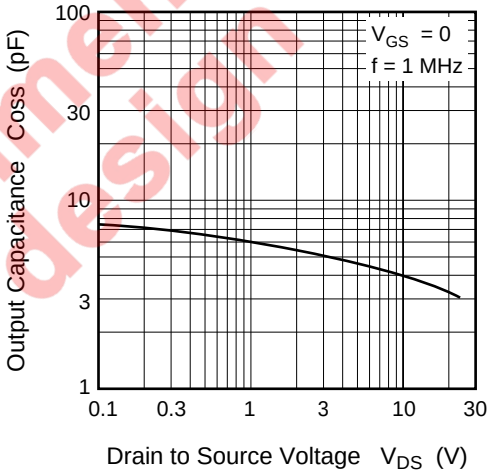
Gate to Source Cutoff Voltage vs. Ambient Temperature



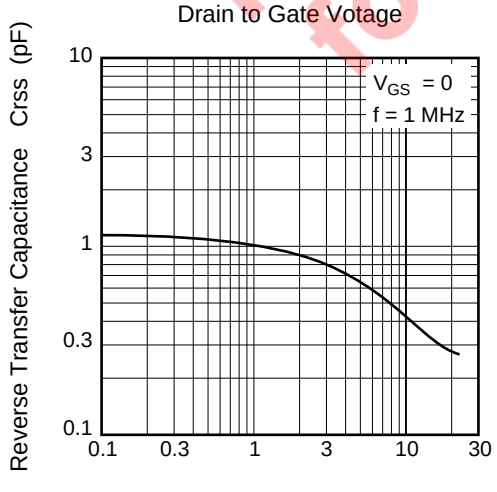
Input Capacitance vs. Gate to Source Voltage



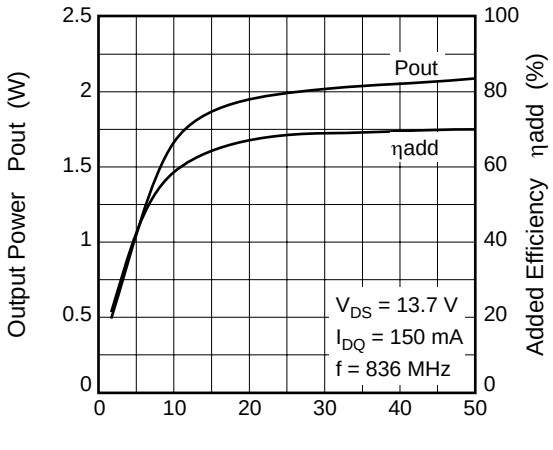
Output Capacitance vs. Drain to Source Voltage



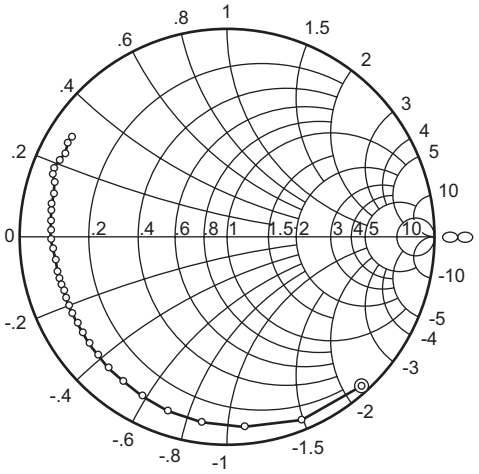
Reverse Transfer Capacitance vs. Drain to Gate Votage



Output Power, Added Efficiency vs. Input Power

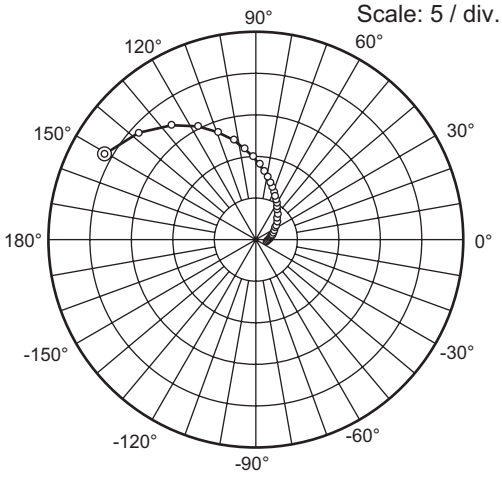


S_{11} Parameter vs. Frequency



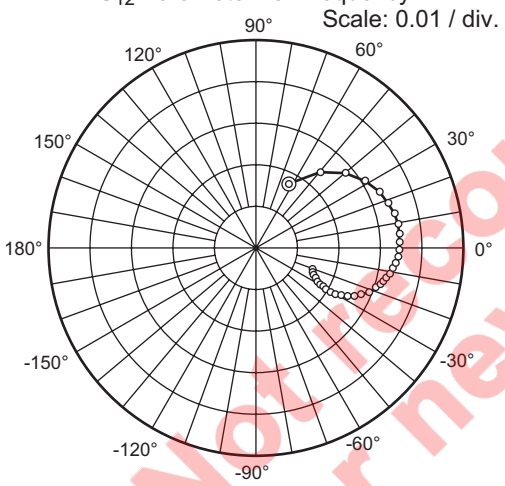
Condition: V_{DS} = 13.7 V, I_{DQ} = 150 mA, Zo = 50 Ω
100 to 1000 MHz (50 MHz Step)
1000 to 2500 MHz (100 MHz Step)

S_{21} Parameter vs. Frequency



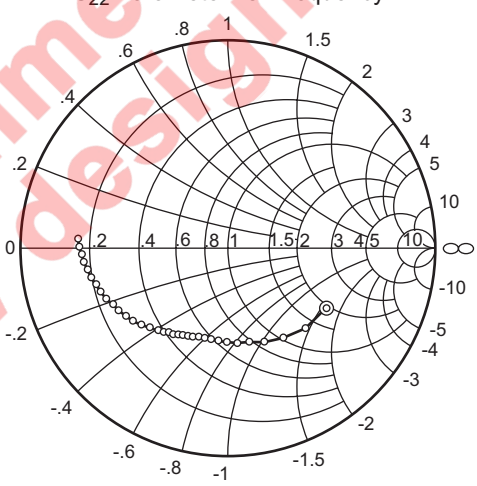
Condition: V_{DS} = 13.7 V, I_{DQ} = 150 mA, Zo = 50 Ω
100 to 1000 MHz (50 MHz Step)
1000 to 2500 MHz (100 MHz Step)

S_{12} Parameter vs. Frequency



Condition: V_{DS} = 13.7 V, I_{DQ} = 150 mA, Zo = 50 Ω
100 to 1000 MHz (50 MHz Step)
1000 to 2500 MHz (100 MHz Step)

S_{22} Parameter vs. Frequency



Condition: V_{DS} = 13.7 V, I_{DQ} = 150 mA, Zo = 50 Ω
100 to 1000 MHz (50 MHz Step)
1000 to 2500 MHz (100 MHz Step)

S Parameter

(V_{DS} = 4.5 V, I_{DQ} = 150 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.942	-62.0	12.61	141.7	0.036	52.5	0.426	-76.6
150	0.920	-85.7	11.22	128.5	0.045	38.2	0.455	-99.8
200	0.885	-105.8	10.04	116.4	0.050	28.2	0.473	-115.6
250	0.854	-120.3	9.15	107.5	0.053	20.8	0.484	-126.7
300	0.836	-130.3	8.11	100.8	0.054	15.1	0.503	-134.5
350	0.814	-138.2	7.32	95.3	0.055	10.3	0.509	-140.5
400	0.809	-144.2	6.64	90.6	0.056	6.2	0.517	-145.0
450	0.806	-148.9	6.04	86.7	0.056	2.3	0.520	-148.5
500	0.802	-152.9	5.54	82.9	0.056	-0.7	0.526	-151.5
550	0.796	-156.2	5.10	79.5	0.056	-3.6	0.530	-154.1
600	0.795	-159.2	4.71	76.4	0.055	-6.4	0.535	-156.2
650	0.795	-162.0	4.37	73.2	0.055	-8.8	0.540	-158.1
700	0.795	-164.5	4.06	70.3	0.055	-11.1	0.544	-159.8
750	0.796	-166.8	3.79	67.5	0.054	-13.1	0.550	-161.5
800	0.795	-168.7	3.53	64.6	0.053	-15.4	0.556	-162.9
850	0.796	-170.6	3.33	62.1	0.053	-17.2	0.561	-164.3
900	0.799	-172.6	3.15	59.5	0.052	-19.0	0.567	-165.6
950	0.802	-174.5	2.97	57.0	0.052	-20.7	0.574	-166.7
1000	0.802	-175.9	2.80	54.8	0.051	-22.6	0.580	-168.0
1050	0.802	-177.5	2.65	52.3	0.050	-24.4	0.586	-169.2
1100	0.803	-179.3	2.51	50.1	0.050	-26.0	0.592	-170.4
1150	0.807	179.3	2.39	47.9	0.049	-27.4	0.597	-171.4
1200	0.809	177.6	2.27	45.4	0.048	-28.8	0.602	-172.5
1250	0.813	176.3	2.16	43.1	0.047	-30.2	0.606	-173.8
1300	0.818	175.1	2.06	41.0	0.047	-31.6	0.612	-174.7
1350	0.818	173.9	1.97	38.8	0.046	-33.0	0.617	-175.7
1400	0.820	172.8	1.88	36.7	0.045	-34.1	0.620	-176.7
1450	0.817	171.6	1.80	34.8	0.044	-35.4	0.625	-177.9
1500	0.821	170.1	1.72	32.9	0.043	-36.5	0.630	-178.9
1550	0.825	168.7	1.64	30.9	0.043	-37.7	0.635	179.9
1600	0.830	167.5	1.57	28.9	0.042	-38.9	0.639	178.6
1650	0.832	166.6	1.51	26.9	0.041	-40.0	0.646	177.6
1700	0.833	165.5	1.45	24.9	0.040	-41.0	0.649	176.5
1750	0.831	164.0	1.41	22.9	0.039	-42.1	0.654	175.3
1800	0.833	162.4	1.36	21.0	0.039	-42.7	0.660	174.2
1850	0.836	160.8	1.32	19.5	0.038	-43.6	0.664	173.0
1900	0.842	159.3	1.28	17.9	0.037	-44.3	0.670	171.9
1950	0.854	157.9	1.23	16.4	0.037	-45.5	0.675	170.7
2000	0.869	156.9	1.19	14.9	0.036	-46.4	0.682	169.6
2050	0.871	156.4	1.15	13.3	0.035	-47.2	0.684	168.5
2100	0.870	155.7	1.11	11.4	0.034	-48.2	0.689	167.3
2150	0.864	154.5	1.07	9.3	0.034	-48.6	0.696	166.2
2200	0.860	153.1	1.04	7.2	0.033	-49.4	0.699	165.2
2250	0.858	151.9	1.01	5.5	0.032	-50.1	0.702	164.1
2300	0.855	150.3	0.98	3.8	0.032	-50.8	0.706	162.8
2350	0.860	149.1	0.95	2.5	0.031	-51.5	0.713	161.7
2400	0.868	147.7	0.92	0.5	0.031	-51.9	0.714	160.7
2450	0.868	146.7	0.89	-1.1	0.030	-52.4	0.716	159.6
2500	0.865	145.2	0.86	-3.2	0.029	-53.1	0.720	158.3

S Parameter

(V_{DS} = 6 V, I_{DQ} = 150 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.941	-60.5	15.47	142.1	0.030	53.5	0.476	-61.7
150	0.916	-83.6	13.68	129.2	0.040	40.8	0.471	-83.8
200	0.886	-102.5	12.16	117.5	0.044	30.8	0.468	-100.1
250	0.856	-115.8	11.01	109.0	0.047	23.1	0.465	-112.0
300	0.838	-125.6	9.74	102.6	0.049	17.0	0.475	-120.8
350	0.824	-133.4	8.74	96.9	0.050	11.9	0.475	-127.9
400	0.816	-139.4	7.89	92.0	0.050	7.5	0.479	-133.1
450	0.812	-144.5	7.17	87.8	0.051	3.6	0.482	-137.2
500	0.807	-148.8	6.50	83.7	0.051	0.2	0.485	-140.7
550	0.804	-152.6	5.99	80.2	0.051	-2.6	0.489	-143.7
600	0.800	-155.8	5.50	76.9	0.050	-5.6	0.495	-146.1
650	0.797	-158.7	5.09	73.9	0.050	-8.2	0.500	-148.3
700	0.800	-161.7	4.73	70.5	0.049	-10.6	0.506	-150.3
750	0.800	-164.1	4.40	67.6	0.049	-12.6	0.513	-152.2
800	0.801	-166.2	4.11	64.7	0.048	-15.1	0.520	-153.9
850	0.802	-168.3	3.87	62.0	0.048	-16.7	0.526	-155.3
900	0.802	-170.3	3.65	59.4	0.047	-18.6	0.535	-156.9
950	0.803	-171.9	3.44	56.9	0.046	-20.4	0.543	-158.3
1000	0.807	-173.7	3.24	54.5	0.046	-22.2	0.551	-159.7
1050	0.806	-175.5	3.08	51.9	0.045	-24.0	0.559	-161.1
1100	0.808	-177.2	2.91	49.8	0.044	-25.7	0.566	-162.5
1150	0.811	-178.9	2.77	47.2	0.043	-27.1	0.574	-163.7
1200	0.815	179.6	2.63	44.9	0.043	-28.5	0.580	-165.0
1250	0.818	178.1	2.50	42.5	0.042	-29.9	0.586	-166.4
1300	0.824	176.8	2.39	40.2	0.041	-31.2	0.594	-167.6
1350	0.824	175.8	2.28	38.0	0.040	-32.6	0.600	-168.7
1400	0.827	174.4	2.17	36.1	0.040	-33.6	0.605	-169.9
1450	0.825	173.1	2.07	33.9	0.039	-34.9	0.611	-171.2
1500	0.827	171.6	1.98	31.9	0.038	-36.0	0.617	-172.5
1550	0.832	170.3	1.89	30.1	0.037	-37.1	0.622	-173.8
1600	0.838	168.9	1.81	27.9	0.036	-38.2	0.628	-175.2
1650	0.842	168.0	1.74	25.9	0.036	-39.2	0.636	-176.4
1700	0.840	166.8	1.68	23.6	0.035	-40.2	0.640	-177.6
1750	0.838	165.3	1.62	21.6	0.034	-41.1	0.646	-179.0
1800	0.840	163.7	1.57	19.9	0.033	-41.5	0.652	179.8
1850	0.843	162.0	1.51	18.1	0.033	-42.3	0.658	178.5
1900	0.852	160.4	1.47	16.7	0.032	-42.9	0.664	177.2
1950	0.860	159.1	1.41	15.2	0.031	-43.9	0.670	175.9
2000	0.873	158.1	1.36	13.6	0.031	-44.6	0.677	174.7
2050	0.879	157.4	1.31	12.0	0.030	-45.4	0.680	173.5
2100	0.877	156.7	1.26	10.1	0.029	-46.1	0.686	172.1
2150	0.871	155.4	1.22	8.0	0.029	-46.3	0.693	171.0
2200	0.869	154.2	1.19	6.0	0.028	-46.9	0.697	169.8
2250	0.865	152.8	1.15	4.1	0.027	-47.4	0.701	168.7
2300	0.863	151.2	1.12	2.4	0.027	-47.7	0.705	167.3
2350	0.868	149.6	1.08	0.8	0.026	-48.2	0.712	166.2
2400	0.875	148.6	1.05	-0.9	0.026	-48.2	0.713	165.1
2450	0.876	147.4	1.01	-2.7	0.025	-48.7	0.716	163.9
2500	0.872	146.1	0.98	-4.6	0.025	-49.0	0.720	162.4

S Parameter

(V_{DS} = 7.5 V, I_{DQ} = 150 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.946	-58.3	17.64	143.8	0.027	55.8	0.500	-52.7
150	0.920	-80.2	15.56	130.9	0.036	42.9	0.483	-73.1
200	0.889	-98.1	13.78	119.7	0.040	32.7	0.470	-88.9
250	0.867	-110.4	12.44	111.4	0.043	25.1	0.460	-101.0
300	0.844	-120.8	10.97	104.3	0.045	18.8	0.453	-110.0
350	0.832	-129.0	9.80	98.4	0.046	13.5	0.458	-117.7
400	0.821	-135.6	8.80	93.3	0.047	8.9	0.461	-123.3
450	0.819	-141.1	7.96	88.8	0.047	4.8	0.463	-127.8
500	0.816	-145.8	7.25	84.6	0.047	1.2	0.466	-131.6
550	0.809	-149.8	6.64	80.7	0.047	-1.8	0.469	-135.0
600	0.807	-153.2	6.09	77.4	0.046	-4.7	0.475	-137.7
650	0.804	-156.5	5.63	74.1	0.046	-7.3	0.481	-140.0
700	0.806	-159.3	5.22	70.7	0.046	-9.8	0.488	-142.4
750	0.806	-161.9	4.86	67.7	0.045	-12.1	0.494	-144.5
800	0.806	-164.2	4.54	64.7	0.044	-14.3	0.502	-146.3
850	0.807	-166.3	4.26	62.0	0.044	-16.3	0.510	-148.2
900	0.808	-168.6	4.02	59.3	0.043	-18.0	0.519	-149.9
950	0.811	-170.4	3.79	56.8	0.043	-19.9	0.528	-151.5
1000	0.812	-172.2	3.57	54.3	0.042	-21.8	0.537	-153.1
1050	0.816	-174.0	3.38	51.8	0.041	-23.4	0.546	-154.6
1100	0.814	-175.8	3.21	49.3	0.041	-25.2	0.555	-156.1
1150	0.818	-177.5	3.05	47.0	0.040	-26.5	0.563	-157.6
1200	0.820	-179.1	2.89	44.5	0.039	-28.0	0.569	-159.1
1250	0.826	179.4	2.75	42.1	0.038	-29.3	0.578	-160.6
1300	0.829	178.0	2.62	39.8	0.037	-30.7	0.585	-161.9
1350	0.831	176.8	2.50	37.5	0.037	-31.9	0.592	-163.2
1400	0.832	175.5	2.38	35.4	0.036	-33.1	0.597	-164.6
1450	0.830	174.1	2.28	33.2	0.035	-34.0	0.605	-166.0
1500	0.835	172.6	2.17	31.3	0.034	-35.1	0.611	-167.4
1550	0.835	171.2	2.07	29.2	0.034	-36.2	0.618	-168.8
1600	0.843	169.7	1.98	27.1	0.033	-37.2	0.624	-170.4
1650	0.846	168.8	1.90	25.1	0.032	-38.1	0.632	-171.6
1700	0.845	167.4	1.83	22.9	0.031	-38.9	0.636	-173.0
1750	0.845	166.1	1.77	21.1	0.030	-39.8	0.642	-174.5
1800	0.845	164.5	1.71	19.1	0.030	-40.0	0.649	-175.9
1850	0.848	162.7	1.65	17.2	0.029	-40.8	0.656	-177.2
1900	0.855	161.2	1.60	15.7	0.028	-41.3	0.661	-178.6
1950	0.867	159.9	1.54	14.3	0.028	-42.0	0.668	-180.0
2000	0.880	158.8	1.49	12.6	0.027	-42.5	0.676	178.7
2050	0.883	158.1	1.43	10.9	0.026	-43.0	0.679	177.4
2100	0.882	157.2	1.37	9.1	0.026	-43.5	0.685	176.0
2150	0.876	156.1	1.33	7.0	0.025	-43.5	0.692	174.7
2200	0.873	154.6	1.29	4.8	0.025	-43.9	0.697	173.5
2250	0.871	153.3	1.25	3.1	0.024	-44.0	0.701	172.2
2300	0.869	151.8	1.21	1.5	0.023	-44.2	0.705	170.7
2350	0.873	150.3	1.17	-0.1	0.023	-44.5	0.712	169.7
2400	0.880	149.0	1.14	-2.2	0.022	-44.4	0.714	168.4
2450	0.881	147.7	1.10	-3.7	0.022	-44.4	0.717	167.1
2500	0.878	146.5	1.06	-5.5	0.021	-44.6	0.721	165.6

S Parameter

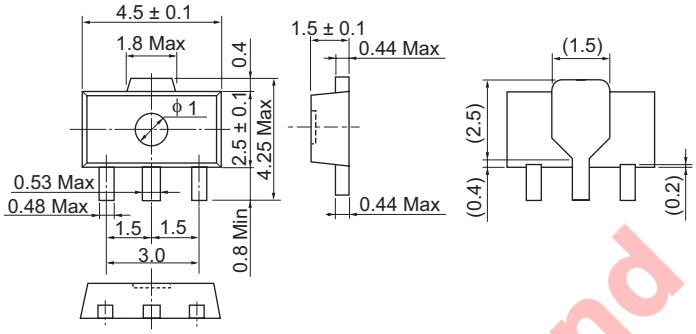
(V_{DS} = 13.7 V, I_{DQ} = 150 mA, Zo = 50 Ω)

f (MHz)	S11		S21		S12		S22	
	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)	MAG	ANG (deg.)
100	0.968	-47.9	20.87	150.6	0.017	63.3	0.557	-31.9
150	0.951	-67.8	19.11	137.9	0.024	49.8	0.536	-46.4
200	0.918	-85.0	17.04	126.4	0.028	39.6	0.512	-58.9
250	0.897	-98.0	15.32	117.2	0.031	31.5	0.488	-69.3
300	0.882	-109.0	13.72	109.6	0.033	24.6	0.466	-77.5
350	0.870	-118.4	12.29	102.7	0.034	18.8	0.460	-85.1
400	0.855	-125.9	11.02	97.1	0.034	13.9	0.454	-91.3
450	0.852	-132.2	10.01	92.3	0.035	9.5	0.451	-96.3
500	0.846	-137.6	9.12	87.8	0.035	5.7	0.451	-100.7
550	0.841	-142.4	8.37	83.3	0.035	2.3	0.451	-104.8
600	0.835	-146.5	7.69	79.6	0.035	-0.8	0.456	-108.3
650	0.833	-150.2	7.11	75.8	0.034	-3.5	0.464	-111.6
700	0.833	-153.6	6.58	72.4	0.034	-6.4	0.469	-114.7
750	0.836	-156.5	6.14	68.9	0.033	-8.5	0.477	-117.7
800	0.833	-159.2	5.72	65.9	0.033	-11.0	0.486	-120.4
850	0.832	-161.8	5.37	62.8	0.032	-12.8	0.494	-122.9
900	0.834	-164.1	5.05	59.9	0.032	-14.7	0.503	-125.4
950	0.834	-166.1	4.75	57.1	0.031	-16.4	0.514	-127.8
1000	0.836	-168.2	4.50	54.6	0.031	-18.3	0.525	-130.2
1050	0.837	-170.3	4.24	51.8	0.030	-19.8	0.535	-132.5
1100	0.838	-172.3	4.03	49.1	0.029	-21.4	0.544	-134.7
1150	0.839	-174.5	3.83	46.3	0.029	-22.7	0.554	-136.8
1200	0.843	-176.0	3.63	44.0	0.028	-23.9	0.563	-138.8
1250	0.848	-177.7	3.46	41.6	0.027	-24.9	0.571	-140.9
1300	0.851	-179.3	3.29	39.1	0.026	-25.9	0.580	-142.8
1350	0.851	179.5	3.13	36.8	0.026	-27.0	0.588	-144.7
1400	0.852	177.9	2.98	34.4	0.025	-27.6	0.594	-146.5
1450	0.851	176.4	2.85	32.3	0.024	-28.4	0.602	-148.4
1500	0.853	175.0	2.72	30.0	0.023	-29.1	0.609	-150.3
1550	0.857	173.3	2.59	27.8	0.023	-29.5	0.616	-152.1
1600	0.861	171.8	2.48	25.6	0.022	-30.2	0.623	-154.0
1650	0.864	170.8	2.37	23.5	0.022	-30.3	0.631	-155.7
1700	0.862	169.4	2.29	21.2	0.021	-30.7	0.637	-157.5
1750	0.860	167.9	2.20	19.4	0.020	-30.7	0.643	-159.3
1800	0.861	166.2	2.13	17.3	0.020	-30.4	0.651	-161.0
1850	0.866	164.3	2.05	15.5	0.019	-30.1	0.657	-162.7
1900	0.873	162.6	1.98	13.9	0.019	-29.7	0.664	-164.5
1950	0.884	161.3	1.90	12.2	0.018	-29.7	0.671	-166.2
2000	0.895	160.4	1.83	10.6	0.018	-29.5	0.679	-167.9
2050	0.901	159.5	1.77	8.5	0.017	-28.9	0.683	-169.4
2100	0.898	158.7	1.70	6.7	0.017	-28.5	0.689	-171.1
2150	0.891	157.4	1.65	4.6	0.016	-27.4	0.697	-172.8
2200	0.887	155.9	1.60	2.5	0.016	-26.8	0.702	-174.2
2250	0.882	154.5	1.54	0.7	0.016	-26.2	0.705	-175.7
2300	0.880	153.0	1.49	-0.9	0.015	-24.9	0.709	-177.4
2350	0.887	151.4	1.45	-2.8	0.015	-24.2	0.718	-178.9
2400	0.892	149.9	1.40	-4.7	0.015	-22.7	0.720	179.7
2450	0.894	148.7	1.35	-6.4	0.015	-21.7	0.724	178.3
2500	0.890	147.5	1.31	-8.5	0.015	-20.7	0.727	176.6

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
UPAK	SC-62	PLZZ0004CA-A	UPAK / UPAKV	0.050g

Unit: mm



Ordering Information

Part Name	Quantity	Shipping Container
2SK3391JXTL-E	1000 pcs.	φ178 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.

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

RENESAS SALES OFFICES

http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

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

Colophon .7.0