

2SK3390

Silicon N-Channel MOS FET UHF Power Amplifier

REJ03G0208-0400

Rev.4.00

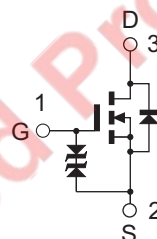
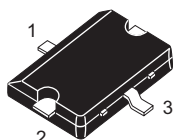
Nov 08, 2007

Features

- High power output, High gain, High efficiency
PG = 17 dB, Pout = 6.31 W, η_{add} = 60% min. (f = 836 MHz)
- Compact package capable of surface mounting

Outline

RENESAS Package code : PLSS0003ZA-A
(Package name: RP8P)



1. Gate
2. Source
3. Drain

Note: Marking is "IX".

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 | 1 | A |
| Drain peak current | $I_{D(pulse)}$ ^{Note1} | 2.5 | A |
| Channel dissipation | P_{ch} ^{Note2} | 20 | W |
| Channel temperature | T_{ch} | 150 | °C |
| Storage temperature | T_{stg} | -45 to +150 | °C |

Notes: 1. $PW < 1\text{sec}$, $T_{ch} < 150^\circ\text{C}$

2. Value at $T_c = 25^\circ\text{C}$

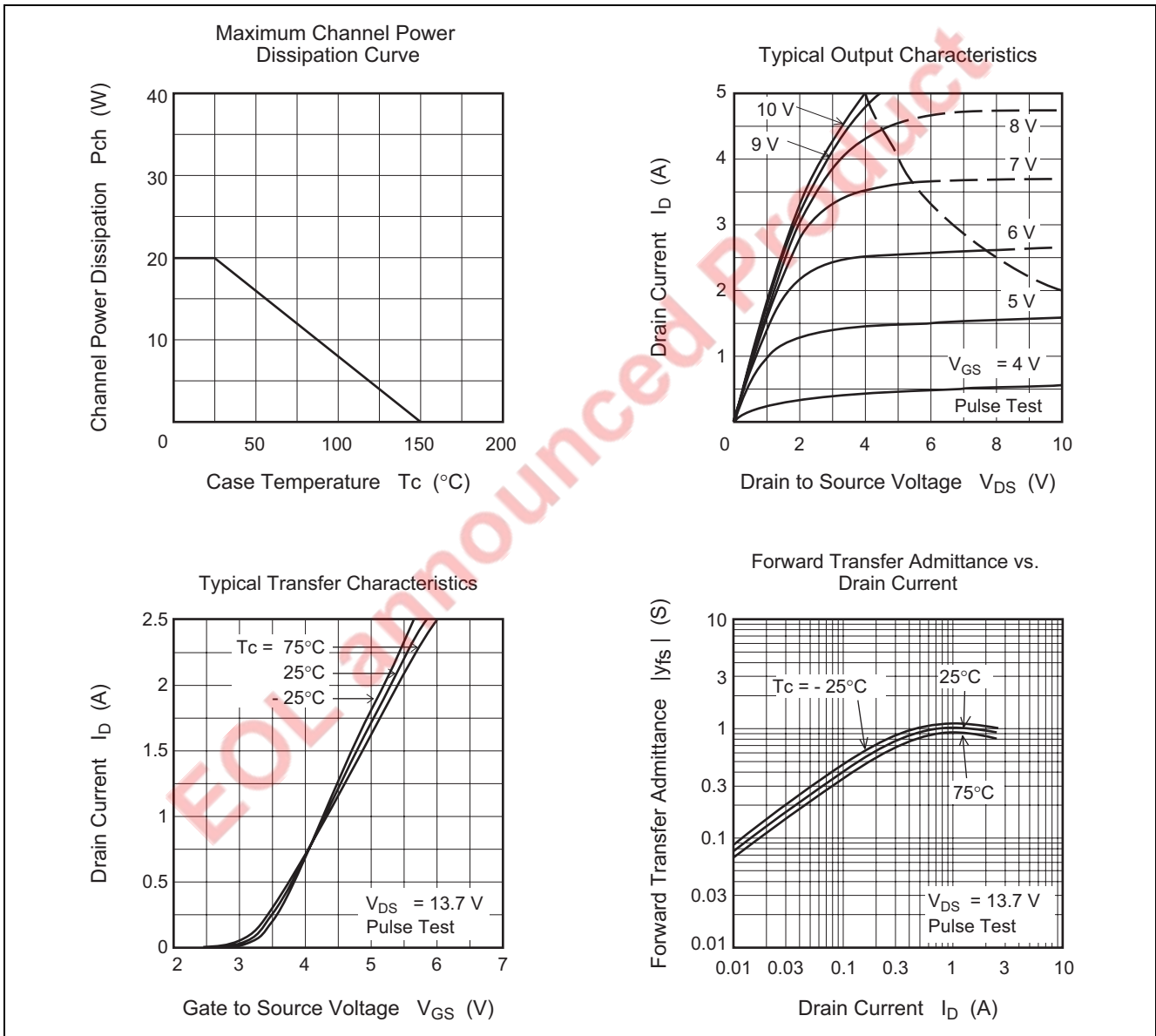
This device is sensitive to electro static discharge. An adequate careful handling procedure is requested.

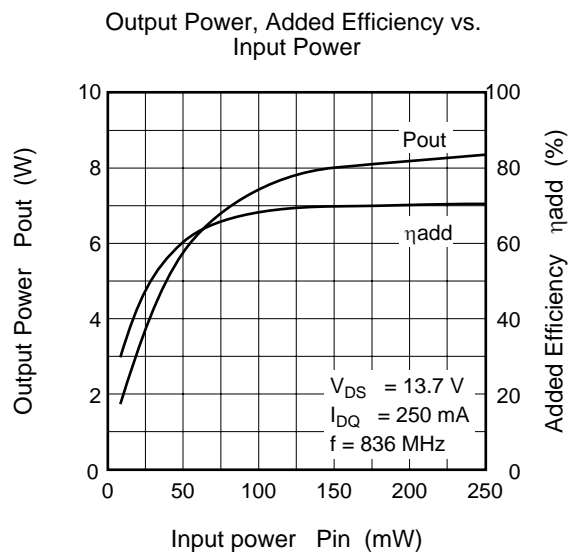
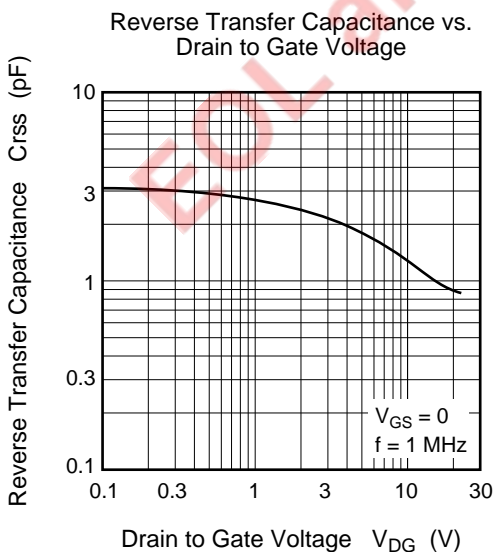
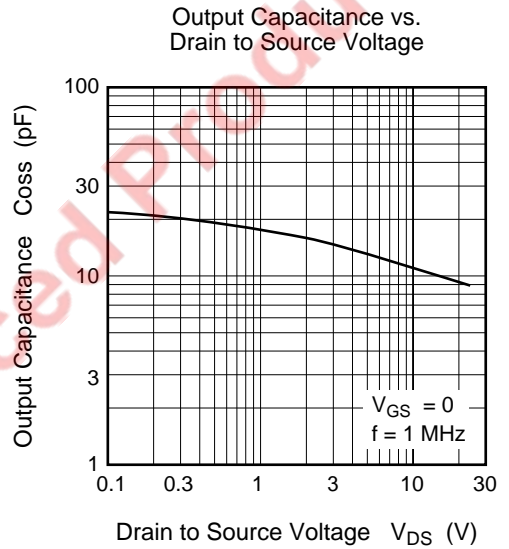
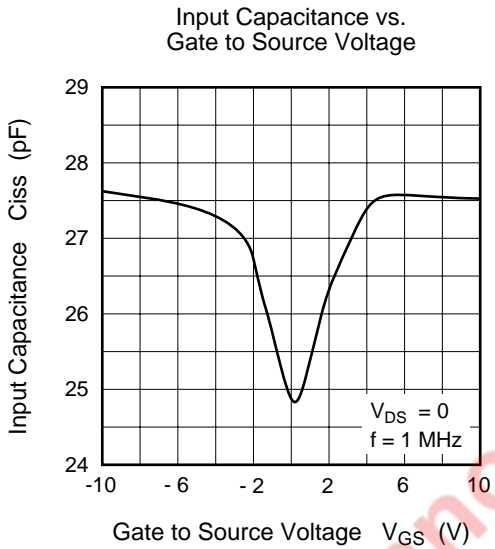
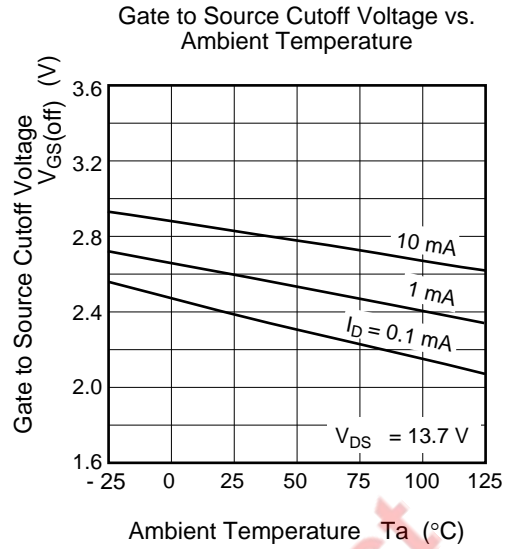
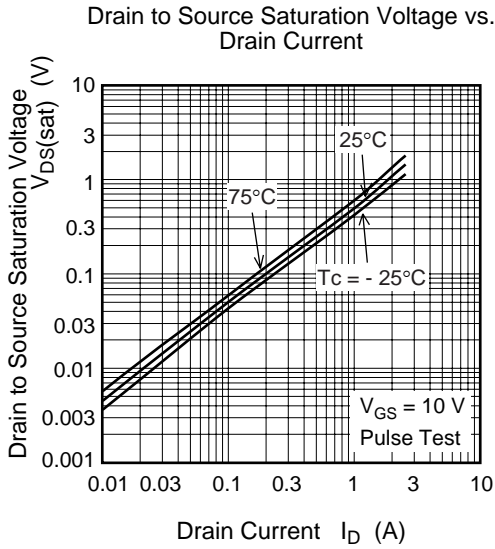
Electrical Characteristics

(Ta = 25°C)

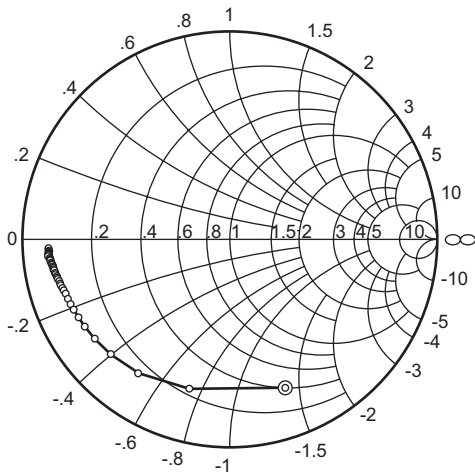
| Item | Symbol | Min. | Typ | Max. | Unit | Test Conditions |
|---------------------------------|---------------|------|------|---------|---------|--|
| Zero gate voltage drain current | I_{DSS} | — | — | 10 | μA | $V_{DS} = 13.7 V, V_{GS} = 0$ |
| Gate to source leak current | I_{GSS} | — | — | ± 5 | μA | $V_{GS} = \pm 10 V, V_{DS} = 0$ |
| Gate to source cutoff voltage | $V_{GS(off)}$ | 2.2 | — | 3.0 | V | $V_{DS} = 13.7 V, I_D = 1 mA$ |
| Input capacitance | C_{iss} | — | 27.5 | — | pF | $V_{GS} = 5 V, V_{DS} = 0, f = 1 MHz$ |
| Output capacitance | C_{oss} | — | 10.5 | — | pF | $V_{DS} = 13.7 V, V_{GS} = 0, f = 1 MHz$ |
| Output Power | P_{out} | 6.31 | — | — | W | $V_{DS} = 13.7 V, I_{DQ} = 250 mA$ |
| Added Efficiency | η_{add} | 60 | — | — | % | $f = 836 MHz, P_{in} = 126 mW$ |

Main Characteristics



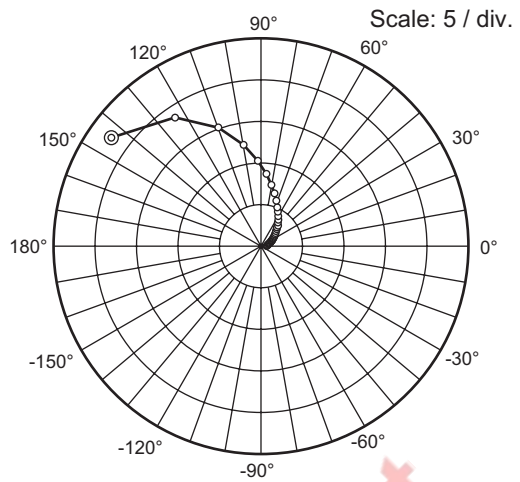


S11 Parameter vs. Frequency



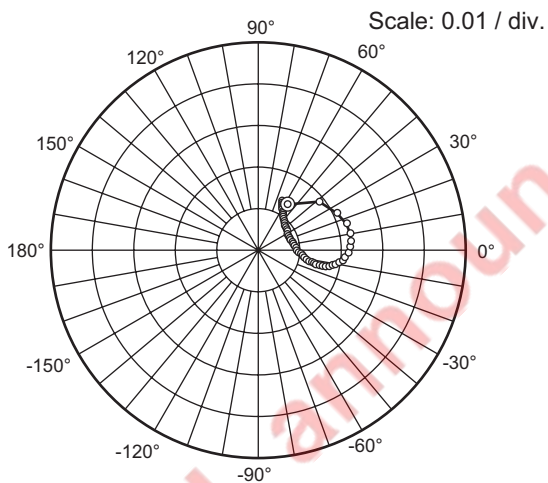
Test condition: $V_{DS} = 13.7\text{ V}$, $I_{DQ} = 250\text{ mA}$,
 $Z_O = 50\ \Omega$
 50 to 2550 MHz (50 MHz step)

S21 Parameter vs. Frequency



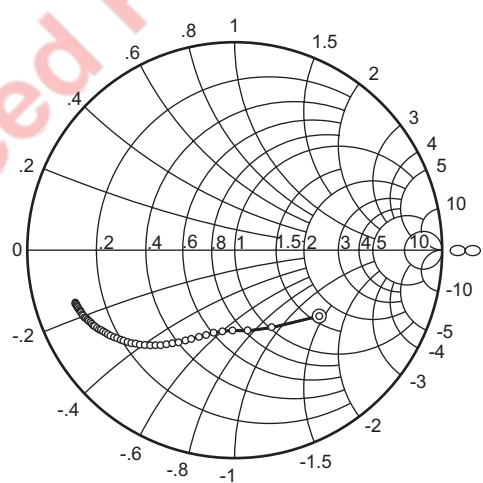
Test condition: $V_{DS} = 13.7\text{ V}$, $I_{DQ} = 250\text{ mA}$,
 $Z_O = 50\ \Omega$
 50 to 2550 MHz (50 MHz step)

S12 Parameter vs. Frequency



Test condition: $V_{DS} = 13.7\text{ V}$, $I_{DQ} = 250\text{ mA}$,
 $Z_O = 50\ \Omega$
 50 to 2550 MHz (50 MHz step)

S22 Parameter vs. Frequency



Test condition: $V_{DS} = 13.7\text{ V}$, $I_{DQ} = 250\text{ mA}$,
 $Z_O = 50\ \Omega$
 50 to 2550 MHz (50 MHz step)

S Parameter

(V_{DS} = 4.5 V, I_{DQ} = 250 mA, Test Power Level = +5 dBm, Z_O = 50 Ω)

| f (MHz) | S11 | | S21 | | S12 | | S22 | |
|---------|-------|-----------|------|-----------|--------|-----------|-------|-----------|
| | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) |
| 50 | 0.832 | -65.3 | 9.46 | 146.5 | 0.0232 | 49.0 | 0.376 | -103.4 |
| 100 | 0.820 | -115.8 | 9.28 | 120.3 | 0.0310 | 27.6 | 0.471 | -133.2 |
| 150 | 0.857 | -138.4 | 8.01 | 105.4 | 0.0335 | 16.6 | 0.518 | -144.8 |
| 200 | 0.866 | -149.1 | 6.79 | 96.7 | 0.0342 | 9.9 | 0.539 | -150.6 |
| 250 | 0.869 | -154.9 | 5.80 | 91.0 | 0.0345 | 5.5 | 0.553 | -153.8 |
| 300 | 0.871 | -158.7 | 4.94 | 86.1 | 0.0343 | 1.5 | 0.566 | -155.8 |
| 350 | 0.875 | -161.2 | 4.30 | 82.3 | 0.0339 | -1.4 | 0.577 | -156.7 |
| 400 | 0.876 | -163.1 | 3.79 | 78.7 | 0.0335 | -4.3 | 0.590 | -157.4 |
| 450 | 0.880 | -164.5 | 3.37 | 75.5 | 0.0328 | -6.4 | 0.601 | -158.0 |
| 500 | 0.883 | -165.8 | 3.01 | 72.7 | 0.0323 | -8.4 | 0.613 | -158.1 |
| 550 | 0.884 | -166.8 | 2.71 | 69.9 | 0.0315 | -10.2 | 0.627 | -158.8 |
| 600 | 0.887 | -167.6 | 2.46 | 67.3 | 0.0308 | -11.9 | 0.637 | -158.7 |
| 650 | 0.889 | -168.2 | 2.24 | 65.0 | 0.0300 | -13.3 | 0.649 | -158.8 |
| 700 | 0.892 | -168.9 | 2.05 | 62.5 | 0.0293 | -14.8 | 0.660 | -159.1 |
| 750 | 0.893 | -169.2 | 1.88 | 60.5 | 0.0284 | -15.6 | 0.670 | -159.3 |
| 800 | 0.896 | -169.9 | 1.74 | 58.4 | 0.0276 | -16.5 | 0.682 | -159.4 |
| 850 | 0.899 | -170.2 | 1.61 | 56.5 | 0.0269 | -17.5 | 0.694 | -159.6 |
| 900 | 0.901 | -170.6 | 1.50 | 54.6 | 0.0260 | -18.2 | 0.704 | -159.9 |
| 950 | 0.903 | -170.8 | 1.39 | 52.7 | 0.0252 | -18.7 | 0.714 | -160.3 |
| 1000 | 0.907 | -171.2 | 1.30 | 51.0 | 0.0244 | -19.1 | 0.723 | -160.6 |
| 1050 | 0.909 | -171.5 | 1.22 | 49.4 | 0.0237 | -19.4 | 0.732 | -161.0 |
| 1100 | 0.910 | -171.8 | 1.15 | 47.8 | 0.0230 | -19.7 | 0.739 | -161.1 |
| 1150 | 0.913 | -172.3 | 1.08 | 46.2 | 0.0221 | -19.9 | 0.746 | -161.5 |
| 1200 | 0.912 | -172.3 | 1.02 | 45.0 | 0.0214 | -19.8 | 0.754 | -162.0 |
| 1250 | 0.915 | -172.6 | 0.96 | 43.3 | 0.0207 | -19.7 | 0.761 | -162.3 |
| 1300 | 0.919 | -172.9 | 0.91 | 42.1 | 0.0200 | -19.7 | 0.769 | -162.9 |
| 1350 | 0.918 | -173.2 | 0.86 | 40.8 | 0.0194 | -19.1 | 0.775 | -163.1 |
| 1400 | 0.920 | -173.5 | 0.82 | 39.5 | 0.0187 | -18.6 | 0.780 | -163.5 |
| 1450 | 0.922 | -173.6 | 0.78 | 38.4 | 0.0181 | -18.0 | 0.788 | -163.8 |
| 1500 | 0.923 | -173.9 | 0.74 | 37.2 | 0.0174 | -17.1 | 0.793 | -164.1 |
| 1550 | 0.927 | -174.2 | 0.71 | 36.2 | 0.0168 | -16.3 | 0.797 | -164.1 |
| 1600 | 0.928 | -174.4 | 0.68 | 35.1 | 0.0163 | -15.6 | 0.803 | -164.6 |
| 1650 | 0.927 | -174.6 | 0.65 | 34.1 | 0.0157 | -14.4 | 0.809 | -164.8 |
| 1700 | 0.928 | -174.6 | 0.62 | 33.1 | 0.0152 | -13.1 | 0.813 | -165.4 |
| 1750 | 0.930 | -174.7 | 0.59 | 32.2 | 0.0148 | -12.0 | 0.814 | -165.7 |
| 1800 | 0.931 | -175.0 | 0.57 | 31.7 | 0.0143 | -10.3 | 0.818 | -165.9 |
| 1850 | 0.931 | -175.2 | 0.55 | 30.5 | 0.0139 | -8.6 | 0.821 | -166.2 |
| 1900 | 0.934 | -175.1 | 0.53 | 29.8 | 0.0136 | -6.8 | 0.826 | -166.3 |
| 1950 | 0.936 | -175.4 | 0.51 | 29.1 | 0.0132 | -5.5 | 0.828 | -166.8 |
| 2000 | 0.937 | -175.4 | 0.49 | 28.1 | 0.0129 | -2.9 | 0.833 | -167.2 |
| 2050 | 0.932 | -175.7 | 0.47 | 27.3 | 0.0126 | -0.9 | 0.835 | -167.6 |
| 2100 | 0.936 | -175.8 | 0.46 | 26.3 | 0.0123 | 1.0 | 0.838 | -168.0 |
| 2150 | 0.935 | -176.0 | 0.44 | 25.6 | 0.0121 | 3.3 | 0.838 | -168.4 |
| 2200 | 0.937 | -176.3 | 0.43 | 25.1 | 0.0119 | 6.2 | 0.842 | -168.7 |
| 2250 | 0.936 | -176.3 | 0.41 | 24.2 | 0.0118 | 8.0 | 0.844 | -169.0 |
| 2300 | 0.937 | -176.6 | 0.40 | 23.4 | 0.0116 | 10.7 | 0.848 | -169.2 |
| 2350 | 0.937 | -176.7 | 0.39 | 22.8 | 0.0116 | 12.8 | 0.847 | -169.8 |
| 2400 | 0.937 | -177.2 | 0.38 | 22.0 | 0.0116 | 15.3 | 0.852 | -170.0 |
| 2450 | 0.938 | -177.3 | 0.37 | 21.3 | 0.0116 | 17.8 | 0.852 | -170.2 |
| 2500 | 0.937 | -177.7 | 0.36 | 20.6 | 0.0116 | 19.8 | 0.853 | -170.6 |
| 2550 | 0.939 | -177.9 | 0.35 | 20.2 | 0.0116 | 22.4 | 0.852 | -170.9 |

S Parameter

(V_{DS} = 6 V, I_{DQ} = 250 mA, Test Power Level = +5 dBm, Z₀ = 50 Ω)

| f (MHz) | S11 | | S21 | | S12 | | S22 | |
|---------|-------|-----------|-------|-----------|--------|-----------|-------|-----------|
| | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) |
| 50 | 0.748 | -68.2 | 12.89 | 146.5 | 0.0214 | 53.3 | 0.372 | -84.0 |
| 100 | 0.820 | -116.0 | 11.53 | 120.1 | 0.0281 | 30.4 | 0.428 | -119.1 |
| 150 | 0.850 | -137.0 | 9.88 | 105.7 | 0.0304 | 18.7 | 0.466 | -133.7 |
| 200 | 0.860 | -146.8 | 8.27 | 97.3 | 0.0315 | 11.1 | 0.487 | -141.1 |
| 250 | 0.866 | -152.4 | 7.00 | 91.3 | 0.0318 | 6.2 | 0.502 | -144.8 |
| 300 | 0.867 | -156.4 | 5.90 | 86.3 | 0.0316 | 1.7 | 0.517 | -147.5 |
| 350 | 0.876 | -159.2 | 5.10 | 82.1 | 0.0313 | -1.4 | 0.532 | -148.8 |
| 400 | 0.877 | -161.4 | 4.45 | 78.3 | 0.0308 | -4.3 | 0.548 | -149.7 |
| 450 | 0.880 | -163.1 | 3.94 | 75.0 | 0.0302 | -6.9 | 0.564 | -150.9 |
| 500 | 0.883 | -164.4 | 3.50 | 71.7 | 0.0295 | -9.0 | 0.578 | -151.1 |
| 550 | 0.885 | -165.5 | 3.15 | 69.0 | 0.0288 | -10.7 | 0.594 | -151.7 |
| 600 | 0.889 | -166.4 | 2.85 | 66.1 | 0.0281 | -12.4 | 0.610 | -152.3 |
| 650 | 0.891 | -167.1 | 2.58 | 63.5 | 0.0272 | -13.8 | 0.623 | -152.6 |
| 700 | 0.895 | -167.9 | 2.36 | 61.1 | 0.0265 | -15.2 | 0.639 | -153.1 |
| 750 | 0.898 | -168.4 | 2.16 | 59.0 | 0.0256 | -16.2 | 0.654 | -153.5 |
| 800 | 0.900 | -168.9 | 1.99 | 56.6 | 0.0248 | -17.1 | 0.667 | -153.9 |
| 850 | 0.900 | -169.3 | 1.84 | 54.7 | 0.0240 | -18.0 | 0.679 | -154.4 |
| 900 | 0.904 | -169.6 | 1.71 | 52.8 | 0.0232 | -18.6 | 0.694 | -154.7 |
| 950 | 0.908 | -170.1 | 1.59 | 50.9 | 0.0224 | -19.0 | 0.705 | -155.5 |
| 1000 | 0.910 | -170.5 | 1.49 | 49.1 | 0.0216 | -19.2 | 0.715 | -156.0 |
| 1050 | 0.912 | -170.8 | 1.39 | 47.5 | 0.0208 | -19.6 | 0.725 | -156.5 |
| 1100 | 0.913 | -171.2 | 1.30 | 45.8 | 0.0200 | -19.6 | 0.732 | -157.0 |
| 1150 | 0.916 | -171.6 | 1.22 | 44.1 | 0.0193 | -19.6 | 0.741 | -157.5 |
| 1200 | 0.919 | -171.9 | 1.15 | 42.9 | 0.0185 | -19.2 | 0.752 | -157.9 |
| 1250 | 0.920 | -172.3 | 1.08 | 41.4 | 0.0178 | -18.9 | 0.759 | -158.5 |
| 1300 | 0.921 | -172.4 | 1.02 | 40.1 | 0.0172 | -18.0 | 0.768 | -159.1 |
| 1350 | 0.920 | -172.7 | 0.97 | 38.8 | 0.0165 | -17.6 | 0.775 | -159.6 |
| 1400 | 0.924 | -172.9 | 0.92 | 37.6 | 0.0159 | -16.8 | 0.783 | -159.9 |
| 1450 | 0.926 | -173.2 | 0.87 | 36.5 | 0.0153 | -15.8 | 0.788 | -160.4 |
| 1500 | 0.927 | -173.5 | 0.83 | 35.2 | 0.0147 | -14.5 | 0.792 | -160.8 |
| 1550 | 0.929 | -173.8 | 0.79 | 34.2 | 0.0142 | -13.2 | 0.800 | -161.3 |
| 1600 | 0.930 | -173.9 | 0.75 | 33.0 | 0.0137 | -11.8 | 0.803 | -161.6 |
| 1650 | 0.930 | -174.2 | 0.72 | 31.9 | 0.0132 | -10.0 | 0.811 | -162.0 |
| 1700 | 0.931 | -174.2 | 0.69 | 31.0 | 0.0128 | -8.5 | 0.816 | -162.7 |
| 1750 | 0.932 | -174.4 | 0.66 | 30.2 | 0.0123 | -6.6 | 0.818 | -162.9 |
| 1800 | 0.935 | -174.7 | 0.63 | 29.4 | 0.0120 | -4.6 | 0.822 | -163.3 |
| 1850 | 0.935 | -174.8 | 0.61 | 28.3 | 0.0117 | -2.0 | 0.827 | -163.5 |
| 1900 | 0.938 | -174.8 | 0.58 | 27.9 | 0.0114 | 0.5 | 0.830 | -163.9 |
| 1950 | 0.937 | -175.1 | 0.56 | 26.8 | 0.0111 | 2.6 | 0.832 | -164.4 |
| 2000 | 0.942 | -175.2 | 0.54 | 26.4 | 0.0109 | 5.6 | 0.836 | -164.9 |
| 2050 | 0.936 | -175.5 | 0.52 | 25.2 | 0.0108 | 8.0 | 0.840 | -165.3 |
| 2100 | 0.940 | -175.7 | 0.50 | 24.5 | 0.0106 | 11.2 | 0.842 | -165.7 |
| 2150 | 0.940 | -175.8 | 0.49 | 23.6 | 0.0105 | 13.7 | 0.843 | -166.3 |
| 2200 | 0.938 | -176.1 | 0.47 | 22.9 | 0.0105 | 16.9 | 0.846 | -166.5 |
| 2250 | 0.938 | -176.1 | 0.45 | 22.2 | 0.0105 | 19.4 | 0.844 | -166.7 |
| 2300 | 0.940 | -176.4 | 0.44 | 21.5 | 0.0105 | 22.2 | 0.850 | -167.2 |
| 2350 | 0.940 | -176.5 | 0.43 | 20.8 | 0.0106 | 24.8 | 0.849 | -167.5 |
| 2400 | 0.939 | -176.9 | 0.41 | 20.0 | 0.0107 | 27.5 | 0.855 | -167.9 |
| 2450 | 0.941 | -177.0 | 0.40 | 19.5 | 0.0108 | 30.0 | 0.855 | -168.2 |
| 2500 | 0.939 | -177.6 | 0.39 | 18.9 | 0.0110 | 32.1 | 0.859 | -168.6 |
| 2550 | 0.943 | -177.6 | 0.38 | 18.2 | 0.0112 | 34.5 | 0.857 | -169.0 |

S Parameter

(V_{DS} = 7.5 V, I_{DQ} = 250 mA, Test Power Level = +5 dBm, Z_O = 50 Ω)

| f (MHz) | S11 | | S21 | | S12 | | S22 | |
|---------|-------|-----------|-------|-----------|--------|-----------|-------|-----------|
| | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) |
| 50 | 0.776 | -73.4 | 16.83 | 144.2 | 0.0187 | 53.9 | 0.386 | -70.8 |
| 100 | 0.816 | -115.0 | 13.62 | 120.7 | 0.0256 | 31.7 | 0.407 | -107.1 |
| 150 | 0.846 | -134.4 | 11.45 | 106.6 | 0.0283 | 19.5 | 0.434 | -123.4 |
| 200 | 0.858 | -144.1 | 9.48 | 98.2 | 0.0296 | 12.4 | 0.452 | -131.8 |
| 250 | 0.867 | -150.2 | 7.89 | 91.8 | 0.0297 | 6.9 | 0.468 | -136.7 |
| 300 | 0.871 | -154.7 | 6.64 | 86.4 | 0.0296 | 2.3 | 0.483 | -139.7 |
| 350 | 0.875 | -157.6 | 5.69 | 82.0 | 0.0292 | -1.1 | 0.502 | -141.5 |
| 400 | 0.880 | -160.0 | 4.97 | 77.9 | 0.0288 | -4.0 | 0.519 | -142.8 |
| 450 | 0.881 | -161.8 | 4.37 | 74.4 | 0.0282 | -6.7 | 0.539 | -144.0 |
| 500 | 0.885 | -163.2 | 3.88 | 71.1 | 0.0274 | -8.8 | 0.557 | -144.9 |
| 550 | 0.887 | -164.5 | 3.49 | 67.9 | 0.0267 | -10.6 | 0.578 | -145.9 |
| 600 | 0.892 | -165.5 | 3.15 | 65.2 | 0.0259 | -12.4 | 0.594 | -146.5 |
| 650 | 0.894 | -166.2 | 2.85 | 62.6 | 0.0251 | -13.9 | 0.612 | -146.9 |
| 700 | 0.898 | -167.1 | 2.60 | 60.1 | 0.0243 | -15.3 | 0.628 | -148.1 |
| 750 | 0.901 | -167.6 | 2.38 | 57.9 | 0.0234 | -16.4 | 0.642 | -148.8 |
| 800 | 0.902 | -168.2 | 2.19 | 55.5 | 0.0226 | -17.2 | 0.659 | -149.2 |
| 850 | 0.905 | -168.9 | 2.02 | 53.5 | 0.0218 | -18.0 | 0.672 | -150.0 |
| 900 | 0.909 | -169.2 | 1.87 | 51.3 | 0.0210 | -18.2 | 0.687 | -150.6 |
| 950 | 0.911 | -169.7 | 1.74 | 49.5 | 0.0202 | -18.8 | 0.700 | -151.5 |
| 1000 | 0.913 | -170.0 | 1.62 | 47.7 | 0.0194 | -19.0 | 0.712 | -152.2 |
| 1050 | 0.915 | -170.4 | 1.51 | 46.1 | 0.0187 | -18.9 | 0.723 | -152.8 |
| 1100 | 0.917 | -170.8 | 1.42 | 44.4 | 0.0179 | -19.0 | 0.733 | -153.5 |
| 1150 | 0.919 | -171.2 | 1.33 | 42.8 | 0.0172 | -18.4 | 0.741 | -154.2 |
| 1200 | 0.921 | -171.5 | 1.25 | 41.3 | 0.0164 | -17.9 | 0.752 | -154.8 |
| 1250 | 0.925 | -171.8 | 1.18 | 40.0 | 0.0158 | -17.4 | 0.759 | -155.5 |
| 1300 | 0.923 | -172.1 | 1.11 | 38.8 | 0.0152 | -16.5 | 0.767 | -156.3 |
| 1350 | 0.923 | -172.3 | 1.05 | 37.3 | 0.0146 | -15.4 | 0.775 | -156.8 |
| 1400 | 0.926 | -172.6 | 0.99 | 36.0 | 0.0140 | -14.3 | 0.784 | -157.3 |
| 1450 | 0.928 | -172.9 | 0.94 | 34.9 | 0.0134 | -13.1 | 0.789 | -157.8 |
| 1500 | 0.930 | -173.2 | 0.89 | 33.7 | 0.0128 | -11.3 | 0.796 | -158.3 |
| 1550 | 0.933 | -173.6 | 0.85 | 32.7 | 0.0124 | -9.5 | 0.801 | -158.6 |
| 1600 | 0.933 | -173.8 | 0.81 | 31.6 | 0.0120 | -7.7 | 0.806 | -159.3 |
| 1650 | 0.937 | -174.1 | 0.77 | 30.6 | 0.0115 | -5.8 | 0.814 | -159.7 |
| 1700 | 0.934 | -174.1 | 0.74 | 29.6 | 0.0111 | -3.0 | 0.816 | -160.5 |
| 1750 | 0.934 | -174.2 | 0.71 | 28.7 | 0.0108 | -1.1 | 0.823 | -160.6 |
| 1800 | 0.937 | -174.5 | 0.68 | 27.9 | 0.0106 | 2.1 | 0.824 | -161.1 |
| 1850 | 0.937 | -174.6 | 0.65 | 26.9 | 0.0103 | 4.7 | 0.829 | -161.7 |
| 1900 | 0.940 | -174.7 | 0.63 | 26.3 | 0.0101 | 8.0 | 0.833 | -161.9 |
| 1950 | 0.940 | -174.9 | 0.60 | 25.4 | 0.0100 | 10.8 | 0.838 | -162.4 |
| 2000 | 0.943 | -175.1 | 0.58 | 24.6 | 0.0098 | 14.0 | 0.840 | -163.0 |
| 2050 | 0.941 | -175.2 | 0.56 | 23.8 | 0.0098 | 16.9 | 0.842 | -163.4 |
| 2100 | 0.943 | -175.7 | 0.54 | 23.0 | 0.0098 | 20.2 | 0.845 | -163.8 |
| 2150 | 0.939 | -175.6 | 0.52 | 22.1 | 0.0098 | 23.1 | 0.845 | -164.5 |
| 2200 | 0.941 | -175.9 | 0.50 | 21.7 | 0.0099 | 26.1 | 0.849 | -164.7 |
| 2250 | 0.940 | -176.0 | 0.49 | 20.7 | 0.0100 | 28.7 | 0.849 | -165.2 |
| 2300 | 0.942 | -176.3 | 0.47 | 20.1 | 0.0101 | 31.8 | 0.855 | -165.5 |
| 2350 | 0.941 | -176.5 | 0.45 | 19.3 | 0.0103 | 34.4 | 0.852 | -165.9 |
| 2400 | 0.943 | -176.9 | 0.44 | 18.6 | 0.0105 | 36.9 | 0.857 | -166.4 |
| 2450 | 0.943 | -177.1 | 0.43 | 17.9 | 0.0108 | 39.1 | 0.859 | -166.7 |
| 2500 | 0.941 | -177.5 | 0.41 | 17.2 | 0.0110 | 41.2 | 0.859 | -167.0 |
| 2550 | 0.943 | -177.6 | 0.40 | 16.8 | 0.0113 | 43.6 | 0.859 | -167.5 |

S Parameter

(V_{DS} = 13.7 V, I_{DQ} = 250 mA, Test Power Level = +5 dBm, Z₀ = 50 Ω)

| f (MHz) | S11 | | S21 | | S12 | | S22 | |
|---------|-------|-----------|-------|-----------|--------|-----------|-------|-----------|
| | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) | Mag | Ang(deg.) |
| 50 | 0.761 | -69.6 | 22.54 | 144.6 | 0.0130 | 56.7 | 0.518 | -37.9 |
| 100 | 0.802 | -105.3 | 18.78 | 124.5 | 0.0187 | 38.1 | 0.448 | -64.1 |
| 150 | 0.841 | -124.6 | 15.25 | 110.6 | 0.0210 | 24.5 | 0.425 | -80.6 |
| 200 | 0.860 | -136.3 | 12.40 | 100.9 | 0.0222 | 16.0 | 0.418 | -91.1 |
| 250 | 0.872 | -143.8 | 10.33 | 93.5 | 0.0226 | 9.7 | 0.427 | -98.3 |
| 300 | 0.880 | -149.2 | 8.68 | 87.2 | 0.0225 | 4.8 | 0.443 | -104.0 |
| 350 | 0.887 | -153.0 | 7.44 | 82.1 | 0.0223 | 1.3 | 0.465 | -108.4 |
| 400 | 0.891 | -155.9 | 6.50 | 77.5 | 0.0217 | -2.3 | 0.488 | -112.1 |
| 450 | 0.896 | -158.1 | 5.70 | 73.3 | 0.0210 | -5.1 | 0.513 | -115.6 |
| 500 | 0.898 | -160.1 | 5.05 | 69.7 | 0.0205 | -7.3 | 0.535 | -118.4 |
| 550 | 0.901 | -161.7 | 4.53 | 66.0 | 0.0197 | -9.2 | 0.560 | -121.1 |
| 600 | 0.906 | -162.9 | 4.06 | 62.8 | 0.0190 | -11.0 | 0.582 | -123.4 |
| 650 | 0.908 | -164.0 | 3.67 | 59.8 | 0.0183 | -12.3 | 0.604 | -125.8 |
| 700 | 0.912 | -165.0 | 3.33 | 57.1 | 0.0175 | -13.5 | 0.627 | -127.9 |
| 750 | 0.914 | -165.7 | 3.04 | 54.6 | 0.0167 | -14.1 | 0.644 | -129.8 |
| 800 | 0.915 | -166.4 | 2.78 | 52.2 | 0.0160 | -14.6 | 0.661 | -131.6 |
| 850 | 0.920 | -167.2 | 2.56 | 49.8 | 0.0152 | -15.0 | 0.679 | -133.3 |
| 900 | 0.921 | -167.7 | 2.36 | 47.8 | 0.0144 | -14.7 | 0.696 | -134.9 |
| 950 | 0.922 | -168.2 | 2.19 | 45.8 | 0.0138 | -14.3 | 0.708 | -136.6 |
| 1000 | 0.926 | -168.9 | 2.03 | 43.8 | 0.0132 | -14.0 | 0.722 | -137.9 |
| 1050 | 0.928 | -169.3 | 1.89 | 41.9 | 0.0125 | -12.9 | 0.733 | -139.2 |
| 1100 | 0.928 | -169.8 | 1.76 | 40.1 | 0.0119 | -11.9 | 0.745 | -140.7 |
| 1150 | 0.929 | -170.2 | 1.65 | 38.6 | 0.0112 | -10.5 | 0.754 | -141.7 |
| 1200 | 0.932 | -170.5 | 1.54 | 37.2 | 0.0107 | -8.4 | 0.763 | -143.0 |
| 1250 | 0.931 | -171.0 | 1.45 | 35.7 | 0.0102 | -6.4 | 0.773 | -144.1 |
| 1300 | 0.933 | -171.5 | 1.36 | 34.1 | 0.0098 | -4.2 | 0.784 | -145.4 |
| 1350 | 0.933 | -171.8 | 1.29 | 32.8 | 0.0094 | -1.6 | 0.790 | -146.3 |
| 1400 | 0.936 | -172.0 | 1.22 | 31.4 | 0.0090 | 1.5 | 0.796 | -147.3 |
| 1450 | 0.937 | -172.3 | 1.15 | 30.4 | 0.0087 | 5.1 | 0.803 | -148.2 |
| 1500 | 0.939 | -172.7 | 1.09 | 29.1 | 0.0085 | 8.0 | 0.809 | -149.0 |
| 1550 | 0.940 | -173.0 | 1.04 | 28.1 | 0.0083 | 11.6 | 0.816 | -149.6 |
| 1600 | 0.942 | -173.5 | 0.99 | 26.8 | 0.0081 | 15.5 | 0.822 | -150.4 |
| 1650 | 0.941 | -173.7 | 0.94 | 25.8 | 0.0080 | 20.0 | 0.828 | -151.4 |
| 1700 | 0.942 | -173.9 | 0.90 | 24.7 | 0.0079 | 23.4 | 0.832 | -151.9 |
| 1750 | 0.942 | -173.9 | 0.86 | 23.8 | 0.0080 | 27.6 | 0.835 | -152.7 |
| 1800 | 0.944 | -174.2 | 0.82 | 23.0 | 0.0081 | 31.1 | 0.837 | -153.4 |
| 1850 | 0.944 | -174.4 | 0.78 | 22.0 | 0.0082 | 34.8 | 0.843 | -154.0 |
| 1900 | 0.947 | -174.4 | 0.75 | 21.4 | 0.0083 | 38.1 | 0.846 | -154.6 |
| 1950 | 0.947 | -174.7 | 0.72 | 20.4 | 0.0086 | 41.8 | 0.849 | -155.3 |
| 2000 | 0.950 | -174.9 | 0.70 | 19.6 | 0.0089 | 44.6 | 0.854 | -155.7 |
| 2050 | 0.946 | -175.2 | 0.67 | 18.7 | 0.0091 | 47.2 | 0.857 | -156.6 |
| 2100 | 0.950 | -175.2 | 0.65 | 17.7 | 0.0094 | 49.6 | 0.858 | -157.1 |
| 2150 | 0.946 | -175.5 | 0.62 | 17.0 | 0.0097 | 52.0 | 0.860 | -157.8 |
| 2200 | 0.947 | -175.8 | 0.60 | 16.3 | 0.0101 | 54.5 | 0.862 | -158.2 |
| 2250 | 0.946 | -175.8 | 0.58 | 15.5 | 0.0105 | 55.9 | 0.863 | -158.7 |
| 2300 | 0.947 | -176.1 | 0.56 | 14.8 | 0.0109 | 57.9 | 0.866 | -159.2 |
| 2350 | 0.945 | -176.4 | 0.54 | 14.1 | 0.0112 | 59.6 | 0.867 | -159.9 |
| 2400 | 0.943 | -176.6 | 0.52 | 13.2 | 0.0116 | 60.6 | 0.870 | -160.3 |
| 2450 | 0.945 | -176.8 | 0.51 | 12.5 | 0.0121 | 61.7 | 0.869 | -160.8 |
| 2500 | 0.946 | -177.3 | 0.49 | 11.8 | 0.0125 | 63.0 | 0.873 | -161.2 |
| 2550 | 0.946 | -177.6 | 0.48 | 11.3 | 0.0129 | 64.1 | 0.872 | -161.7 |

Package Dimensions

| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] | Unit: mm |
|--------------|--------------------|--------------|---------------|------------|----------|
| RP8P | — | PLSS0003ZA-A | RP8P / RP8PV | 0.08g | |

The drawing shows the following dimensions:

- Top view: Overall width 5.2 ± 0.15 , distance between mounting holes 2.54 ± 0.2 , mounting hole diameter 1.1 , distance from edge to mounting hole 3.4 ± 0.15 , distance from edge to lead 0.2 , and lead width $0.5^{+0.1}_{-0.05}$.
- Side view: Package height 1.325 ± 0.15 and lead height $0.16^{+0.1}_{-0.06}$.
- Bottom view: Lead width 0.6 , maximum lead length 4.5 Max , and maximum package length $5.6^{+0.7}_{-0.5}$.

Ordering Information

| Part Name | Quantity | Shipping Container |
|---------------|-----------|-----------------------------------|
| 2SK3390IXTB-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.

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