

RJK6025DPD

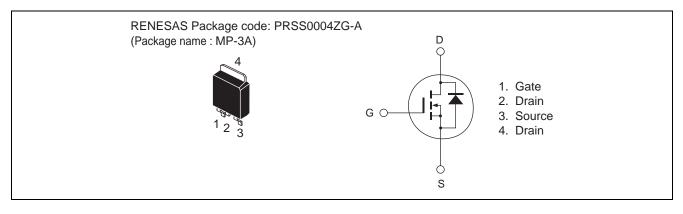
600V - 1A - MOS FET High Speed Power Switching R07DS0676EJ0100 Rev.1.00 Feb 17, 2012

Datasheet

Features

- Low on-resistance $P_{12} = 1250$ tr
- $R_{DS(on)} = 13.5 \ \Omega$ typ. (at $I_D = 0.5 \ A$, $V_{GS} = 10 \ V$, $Ta = 25^{\circ}C$)
- Low drive current
- High density mounting

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$ Symbol Unit Item Ratings Drain to source voltage VDSS 600 V Gate to source voltage V_{GSS} ±30 V Drain current 1 A I_D Note1 2 Α Drain peak current Body-drain diode reverse drain current 1 А I_{DR} Note1 Body-drain diode reverse drain peak current I_{DR (pulse)} 2 A Pch Note2 W Channel dissipation 29.7 Channel to case thermal impedance 4.2 °C/W $\theta ch-c$ °C Tch 150 Channel temperature Storage temperature Tstg -55 to +150 °C

Notes: 1. $PW \le 10 \ \mu s$, duty cycle $\le 1\%$

2. Value at Tc = 25°C



Electrical Characteristics

| | | | | | | $(Ta = 25^{\circ}C)$ |
|--------------------------------------------|----------------------|-----|------|------|------|--------------------------------------------------------------------------|
| Item | Symbol | Min | Тур | Max | Unit | Test conditions |
| Drain to source breakdown voltage | V _{(BR)DSS} | 600 | — | — | V | $I_D = 10 \text{ mA}, V_{GS} = 0$ |
| Zero gate voltage drain current | I _{DSS} | | — | 1 | μΑ | $V_{DS} = 600 \text{ V}, \text{ V}_{GS} = 0$ |
| Gate to source leak current | I _{GSS} | _ | _ | ±0.1 | μΑ | $V_{GS}=\pm 30~V,~V_{DS}=0$ |
| Gate to source cutoff voltage | V _{GS(off)} | 3 | _ | 5 | V | $V_{DS} = 10 \text{ V}, I_D = 1 \text{ mA}$ |
| Static drain to source on state resistance | R _{DS(on)} | _ | 13.5 | 17.5 | Ω | $I_D = 0.5 \text{ A}, V_{GS} = 10 \text{ V}^{Note3}$ |
| Input capacitance | Ciss | | 37.5 | | pF | V _{DS} = 25 V |
| | Coss | | 7.5 | | pr | $V_{\rm GS} = 23$ V V _{GS} = 0 |
| Output capacitance | | | | | | f = 1 MHz |
| Reverse transfer capacitance | Crss | _ | 0.9 | — | pF | |
| Turn-on delay time | t _{d(on)} | | 30 | | ns | $I_{D} = 0.2 \text{ A}$ |
| Rise time | tr | | 14.5 | — | ns | V _{GS} = 10 V |
| Turn-off delay time | t _{d(off)} | _ | 48 | — | ns | R _L = 1500 Ω |
| Fall time | t _f | _ | 77 | — | ns | Rg = 10 Ω |
| Total gate charge | Qg | _ | 5.0 | — | nC | V _{DD} = 480 V |
| Gate to source charge | Qgs | _ | 0.7 | _ | nC | V _{GS} = 10 V |
| Gate to drain charge | Qgd | _ | 3.3 | | nC | I _D = 1.0 A |
| Body-drain diode forward voltage | V _{DF} | _ | 0.85 | 1.45 | V | $I_F = 1.0 \text{ A}, V_{GS} = 0^{Note3}$ |
| Body-drain diode reverse recovery time | t _{rr} | | 230 | | ns | $ I_{F} = 0.4 \text{ A}, V_{GS} = 0 \\ di_{F}/dt = 100 \text{ A}/\mu s $ |

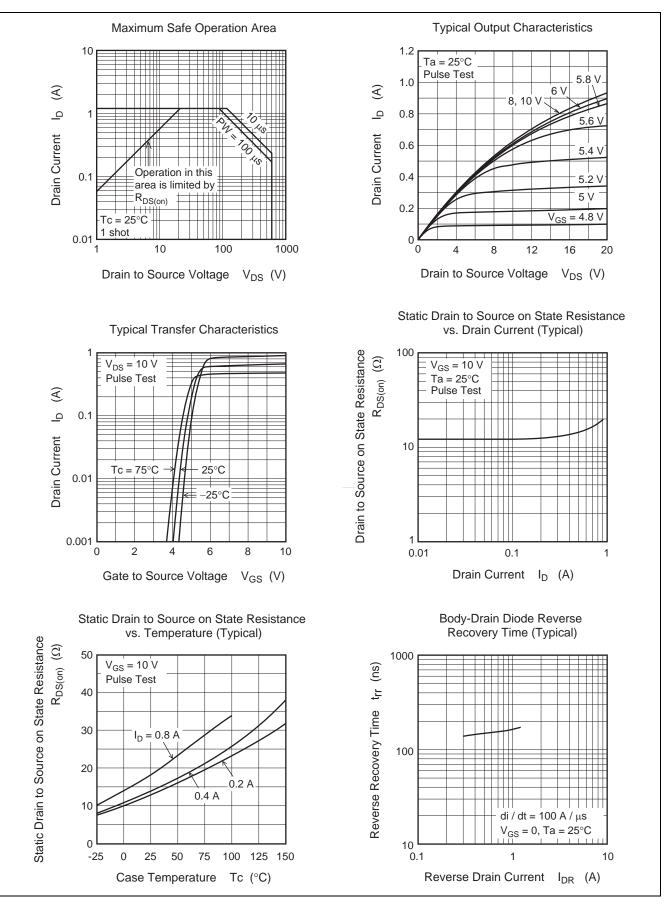
Notes: 3. Pulse test

 Since this device is equipped with high voltage FET chip (V_{DSS} ≥ 600 V), high voltage may be supplied. Therefore, please be sure to confirm about Electric discharge between Drain terminal and other terminal.

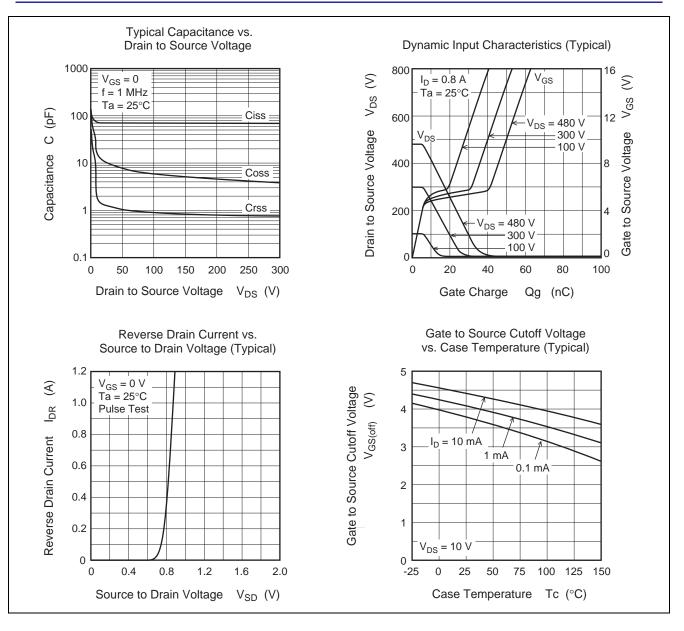
This device is sensitive to electrostatic discharge.
It is recommended to adopt appropriate cautions when handling this product.



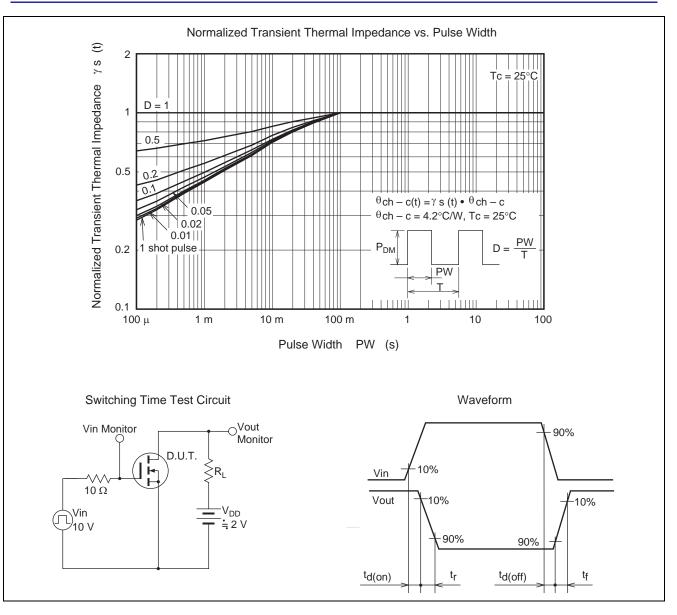
Main Characteristics





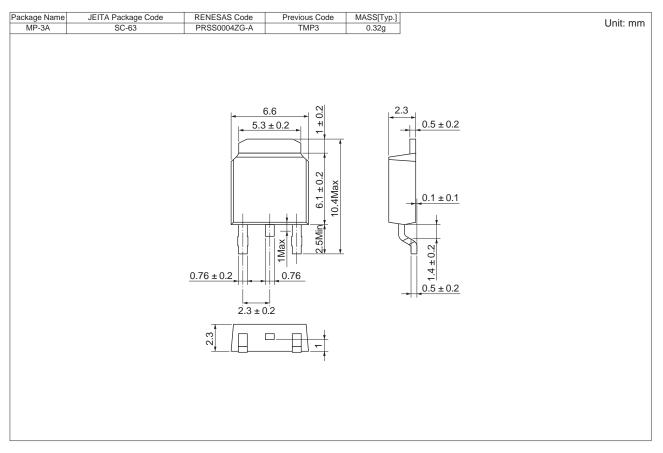








Package Dimensions



Ordering Information

| Orderable Part Number | Quantity | Shipping Container |
|-----------------------|----------|--------------------|
| RJK6025DPD-00#J2 | 3000 pcs | Taping |



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