

RJK6036DP3-A0

600V - 2A - MOS FET
High Speed Power Switching

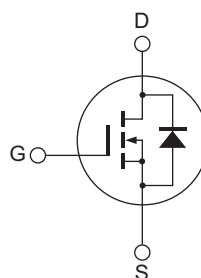
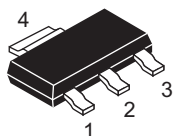
R07DS0841EJ0100
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Features

- Low on-resistance
 $R_{DS(on)} = 5.7 \Omega$ typ. (at $I_D = 1 \text{ A}$, $V_{GS} = 10 \text{ V}$, $T_a = 25^\circ\text{C}$)
- Low drive current
- High density mounting

Outline

RENESAS Package code: PRSP0004ZB-A
Package name: SOT-223



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

Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	600	V
Gate to source voltage	V_{GSS}	± 30	V
Drain current	I_D ^{Note1}	2	A
Drain peak current	$I_{D(pulse)}$ ^{Note2}	4	A
Body-drain diode reverse drain current	I_{DR} ^{Note1}	2	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ ^{Note2}	4	A
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Notes: 1. Limited T_{ch} max.. Value at $T_c = 25^\circ\text{C}$

2. Pulse width limited by safe operating area.

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	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	μA	$V_{DS} = 600 \text{ V}$, $V_{GS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 0.1	μA	$V_{GS} = \pm 30 \text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	3.0	—	4.5	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ mA}$
Static drain to source on state resistance	$R_{DS(on)}$	—	5.7	6.8	Ω	$I_D = 1 \text{ A}$, $V_{GS} = 10 \text{ V}$ ^{Note3}
Input capacitance	C_{iss}	—	165	—	pF	$V_{DS} = 25 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	20	—	pF	
Reverse transfer capacitance	C_{rss}	—	2.5	—	pF	
Turn-on delay time	$t_{d(on)}$	—	12	—	ns	$I_D = 1 \text{ A}$ $V_{GS} = 10 \text{ V}$ $R_L = 300 \Omega$ $R_g = 10 \Omega$
Rise time	t_r	—	12	—	ns	
Turn-off delay time	$t_{d(off)}$	—	20	—	ns	
Fall time	t_f	—	31	—	ns	
Body-drain diode forward voltage	V_{DF}	—	0.9	1.5	V	$I_F = 2 \text{ A}$, $V_{GS} = 0$ ^{Note3}

Notes: 3. Pulse test

4. This device is sensitive to electrostatic discharge.

It is recommended to adopt appropriate cautions when handling this product.

Package Dimension

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]	Unit: mm
SOT-223	—	PRSP0004ZB-A	SOT-223A	0.12g	

The drawing shows the mechanical dimensions of the RJK6036DP3-A0 package in millimeters. The top view shows a rectangular body with a width of 6.5 ± 0.2 mm and a height of 3.5 ± 0.2 mm. The distance between the centers of the three mounting pins is 2.3 ± 0.1 mm. The distance from the left edge to the first pin center is 0.7 ± 0.1 mm. The distance from the right edge to the last pin center is 2.3 ± 0.1 mm. The distance from the top edge to the top of the pins is 7.0 ± 0.3 mm. The distance from the top edge to the top of the pins is $3.0^{+0.10}_{-0.05}$ mm. The side view shows a height of 1.66 ± 0.14 mm and a width of 1.0 ± 0.1 mm. The bottom view shows a width of 0.28 ± 0.04 mm and a height of 0.06 ± 0.04 mm.

Ordering Information

Orderable Part Number	Quantity	Shipping Container
RJK6036DP3-A0#J2	3000 pcs	Taping

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