

# RJK2555DPA

Silicon N Channel MOS FET  
High Speed Power Switching

REJ03G1776-0100

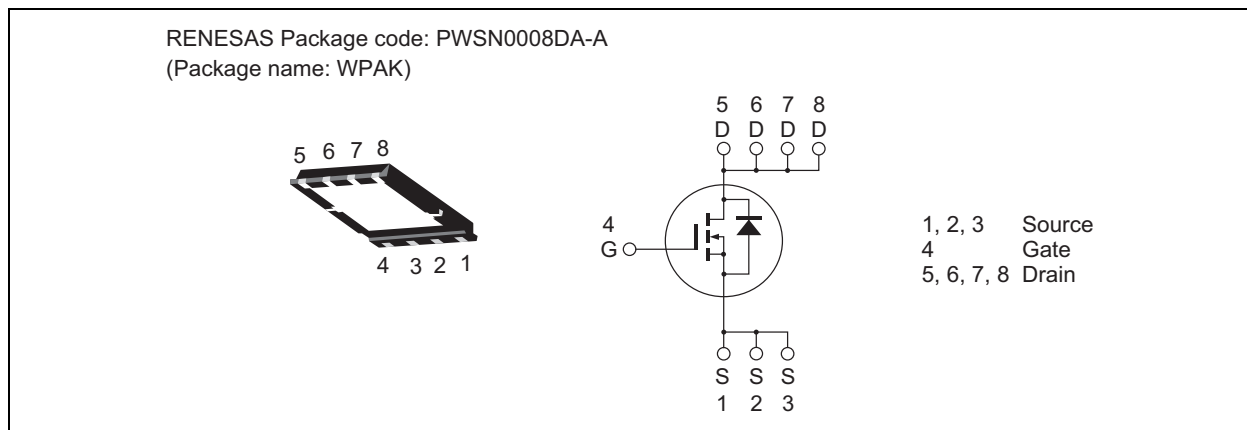
Rev.1.00

Mar 12, 2009

## Features

- Low on-resistance
- Low drive current
- High density mounting

## Outline



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	250	V
Gate to source voltage	$V_{GSS}$	±30	V
Drain current	$I_D$	17	A
Drain peak current	$I_{D(pulse)}$ <sup>Note1</sup>	34	A
Body-drain diode reverse drain current	$I_{DR}$	17	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ <sup>Note1</sup>	34	A
Avalanche current	$I_{AP}$ <sup>Note3</sup>	7	A
Avalanche energy	$E_{AR}$ <sup>Note3</sup>	3.0	mJ
Channel dissipation	$P_{ch}$ <sup>Note2</sup>	30	W
Channel to case thermal impedance	$\theta_{ch-c}$	4.17	°C/W
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

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

3.  $ST_{ch} = 25^\circ C$ ,  $T_{ch} \leq 150^\circ C$

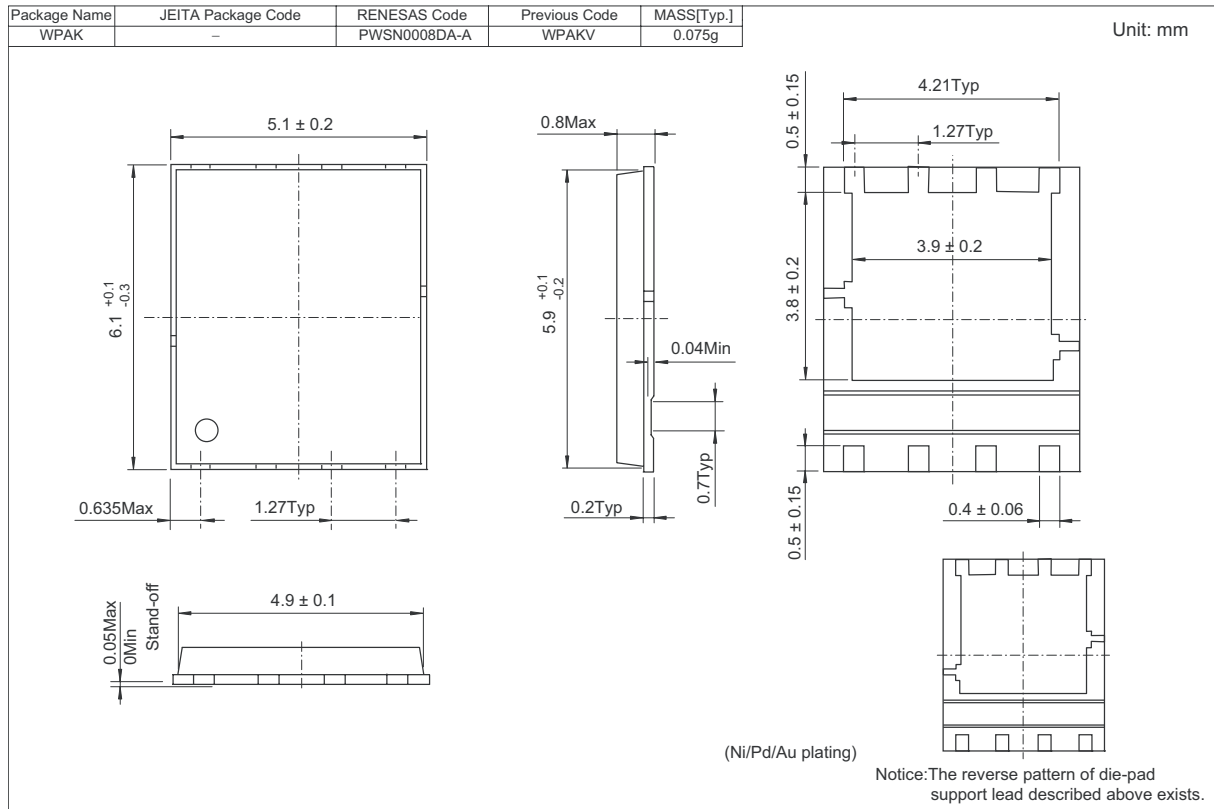
## Electrical Characteristics

(T<sub>a</sub> = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V <sub>(BR)DSS</sub>	250	—	—	V	I <sub>D</sub> = 10 mA, V <sub>GS</sub> = 0
Zero gate voltage drain current	I <sub>DSS</sub>	—	—	1	μA	V <sub>DS</sub> = 250 V, V <sub>GS</sub> = 0
Gate to source leak current	I <sub>GSS</sub>	—	—	±1	μA	V <sub>GS</sub> = ±30 V, V <sub>DS</sub> = 0
Gate to source cutoff voltage	V <sub>GS(off)</sub>	2.5	—	4.5	V	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1 mA
Static drain to source on state resistance	R <sub>DS(on)</sub>	—	0.083	0.104	Ω	I <sub>D</sub> = 8.5 A, V <sub>GS</sub> = 10 V <sup>Note4</sup>
Input capacitance	C <sub>iss</sub>	—	2400	—	pF	V <sub>DS</sub> = 25 V
Output capacitance	C <sub>oss</sub>	—	210	—	pF	V <sub>GS</sub> = 0
Reverse transfer capacitance	C <sub>rss</sub>	—	49	—	pF	f = 1 MHz
Turn-on delay time	t <sub>d(on)</sub>	—	61	—	ns	I <sub>D</sub> = 8.5 A
Rise time	t <sub>r</sub>	—	42	—	ns	V <sub>GS</sub> = 10 V
Turn-off delay time	t <sub>d(off)</sub>	—	100	—	ns	R <sub>L</sub> = 14.7 Ω
Fall time	t <sub>f</sub>	—	33	—	ns	R <sub>g</sub> = 10 Ω
Total gate charge	Q <sub>g</sub>	—	39	—	nC	V <sub>DD</sub> = 200 V
Gate to source charge	Q <sub>gs</sub>	—	12.4	—	nC	V <sub>GS</sub> = 10 V
Gate to drain charge	Q <sub>gd</sub>	—	10.5	—	nC	I <sub>D</sub> = 17 A
Body-drain diode forward voltage	V <sub>DF</sub>	—	0.90	1.35	V	I <sub>F</sub> = 17 A, V <sub>GS</sub> = 0 <sup>Note4</sup>
Body-drain diode reverse recovery time	t <sub>rr</sub>	—	165	—	ns	I <sub>F</sub> = 17 A, V <sub>GS</sub> = 0 di <sub>F</sub> /dt = 100 A/μs

Notes: 4. Pulse test

### Package Dimensions



### Ordering Information

Part No.	Quantity	Shipping Container
RJK2555DPA-00-J0	2500 pcs	Taping

Notes:

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