

RJK2557DPA

Silicon N Channel MOS FET
High Speed Power Switching

REJ03G1777-0100

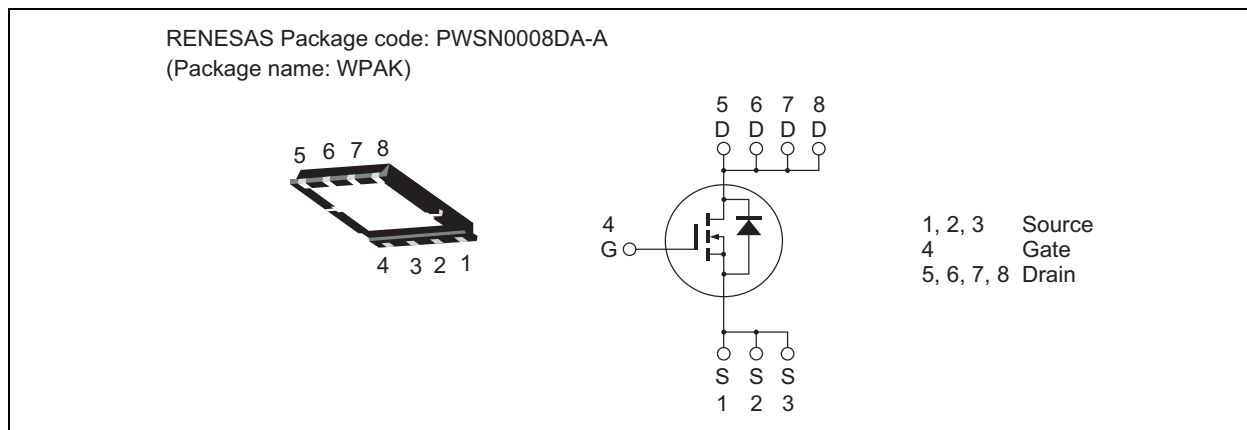
Rev.1.00

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	$I_{D(pulse)}$ ^{Note1}	34	A
Body-drain diode reverse drain current	I_{DR}	17	A
Body-drain diode reverse drain peak current	$I_{DR(pulse)}$ ^{Note1}	34	A
Avalanche current	I_{AP} ^{Note3}	7	A
Avalanche energy	E_{AR} ^{Note3}	3.0	mJ
Channel dissipation	P_{ch} ^{Note2}	30	W
Channel to case thermal impedance	θ_{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. $ST_{ch} = 25^\circ C$, $T_{ch} \leq 150^\circ C$

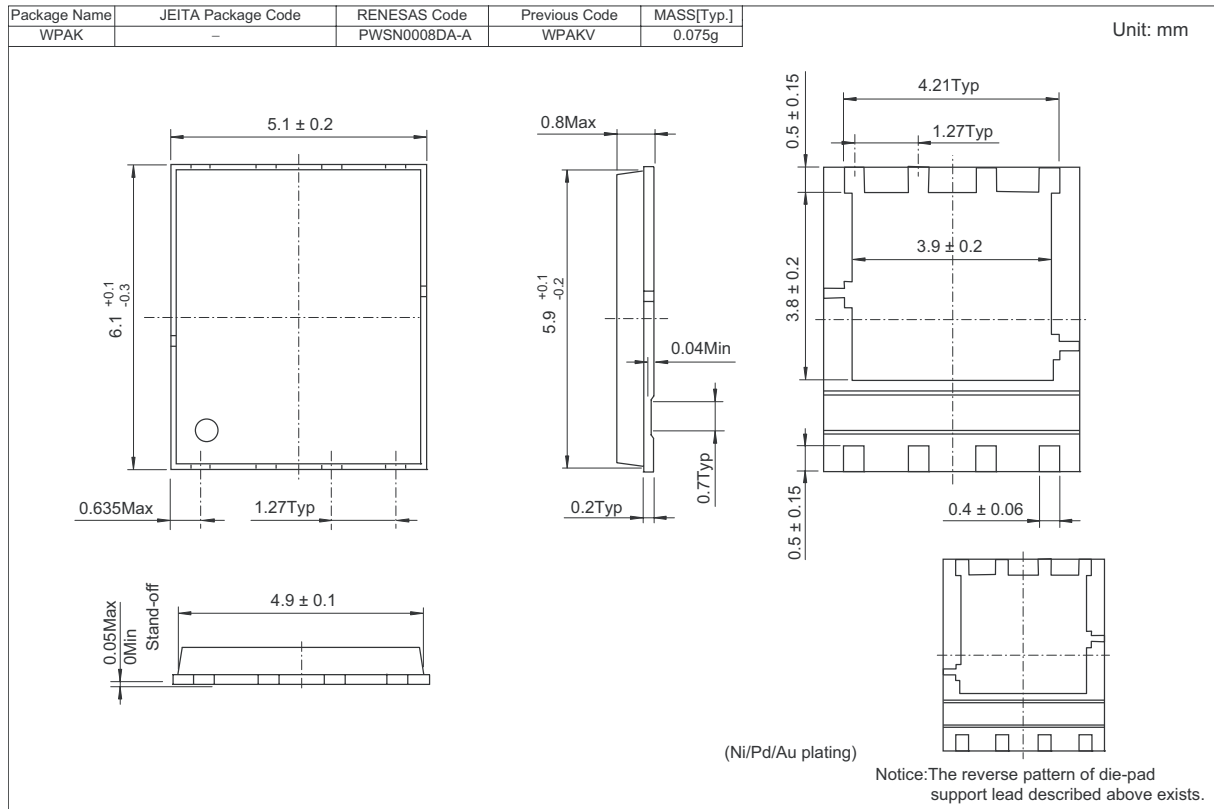
Electrical Characteristics

(T_a = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	250	—	—	V	I _D = 10 mA, V _{GS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	1	μA	V _{DS} = 250 V, V _{GS} = 0
Gate to source leak current	I _{GSS}	—	—	±1	μA	V _{GS} = ±30 V, V _{DS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.5	—	4.5	V	V _{DS} = 10 V, I _D = 1 mA
Static drain to source on state resistance	R _{DS(on)}	—	0.102	0.128	Ω	I _D = 8.5 A, V _{GS} = 10 V ^{Note4}
Input capacitance	C _{iss}	—	1250	—	pF	V _{DS} = 25 V
Output capacitance	C _{oss}	—	205	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	22	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	21	—	ns	I _D = 8.5 A
Rise time	t _r	—	34	—	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	—	35	—	ns	R _L = 11.8 Ω
Fall time	t _f	—	29	—	ns	R _g = 10 Ω
Total gate charge	Q _g	—	20	—	nC	V _{DD} = 200 V
Gate to source charge	Q _{gs}	—	6.8	—	nC	V _{GS} = 10 V
Gate to drain charge	Q _{gd}	—	5.9	—	nC	I _D = 17 A
Body-drain diode forward voltage	V _{DF}	—	0.89	1.35	V	I _F = 17 A, V _{GS} = 0 ^{Note4}
Body-drain diode reverse recovery time	t _{rr}	—	160	—	ns	I _F = 17 A, V _{GS} = 0 di _F /dt = 100 A/μs

Notes: 4. Pulse test

Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
RJK2557DPA-00-J0	2500 pcs	Taping

Notes:

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