

RJK0353DPA

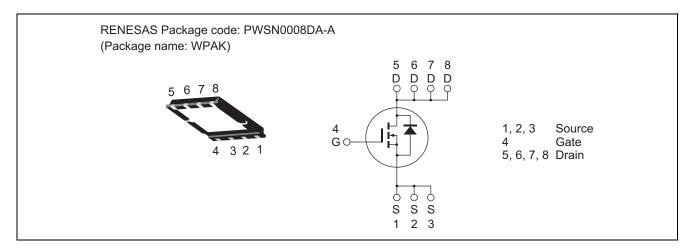
Silicon N Channel Power MOS FET Power Switching

REJ03G1647-0300 Rev.3.00 Apr 10, 2008

Features

- High speed switching
- Capable of 4.5 V gate drive
- Low drive current
- High density mounting
- Low on-resistance $R_{DS(on)}\!=4.0~\text{m}\Omega~\text{typ.}~(\text{at }V_{GS}=10~\text{V})$
- Pb-free

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	30	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I _D	35	Α
Drain peak current	I _{D(pulse)} Note1	140	Α
Body-drain diode reverse drain current	I _{DR}	35	А
Avalanche current	I _{AP} Note 2	16	А
Avalanche energy	E _{AR} Note 2	25.6	mJ
Channel dissipation	Pch Note3	40	W
Channel to Case Thermal Resistance	θch-C	3.13	°C/W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

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

- 2. Value at Tch = 25°C, Rg \geq 50 Ω
- 3. Tc = 25°C

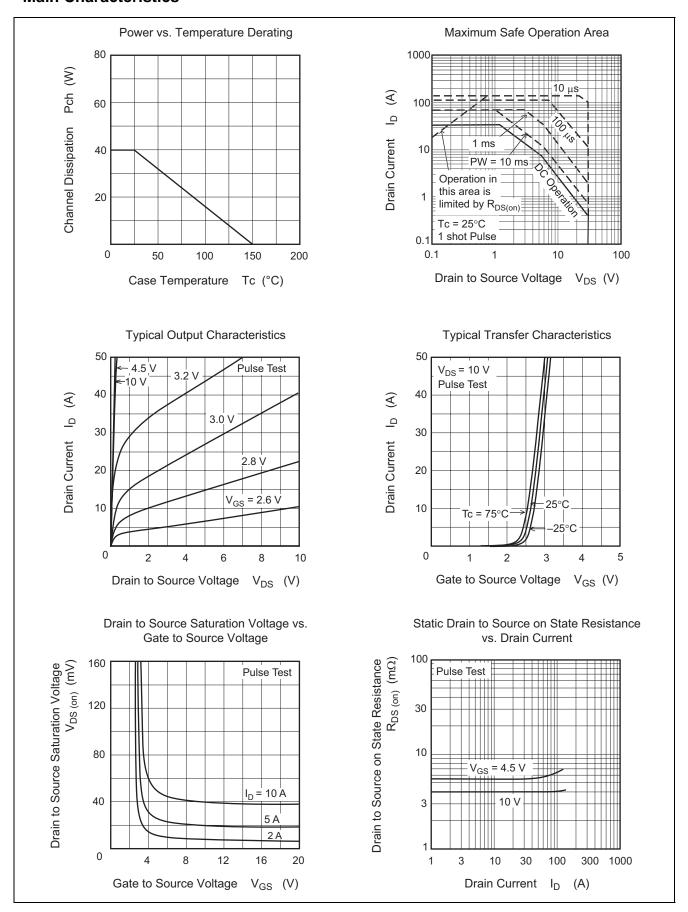
Electrical Characteristics

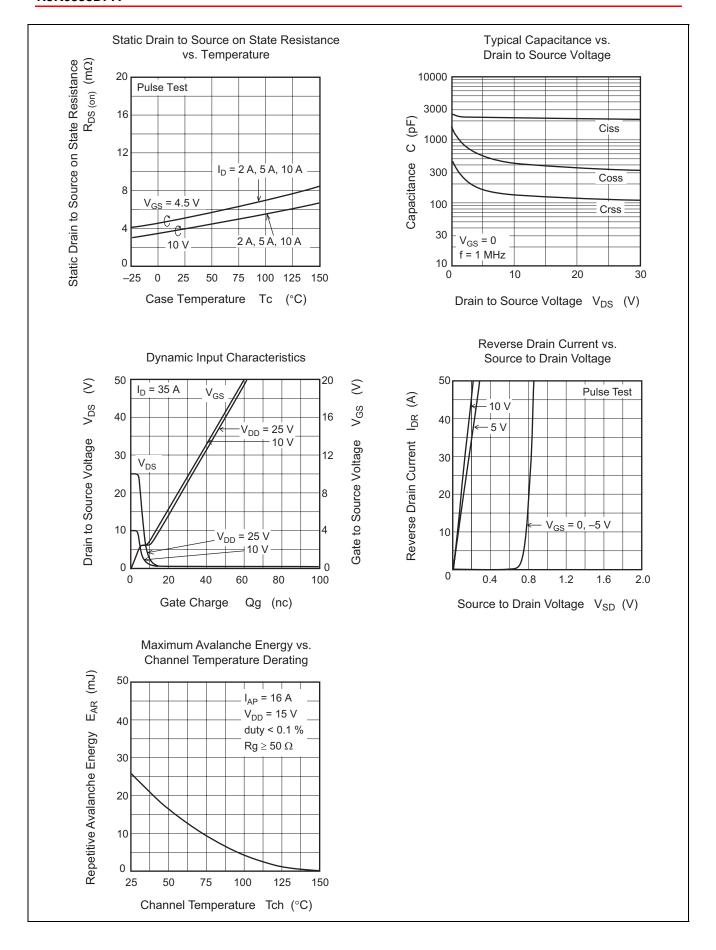
 $(Ta = 25^{\circ}C)$

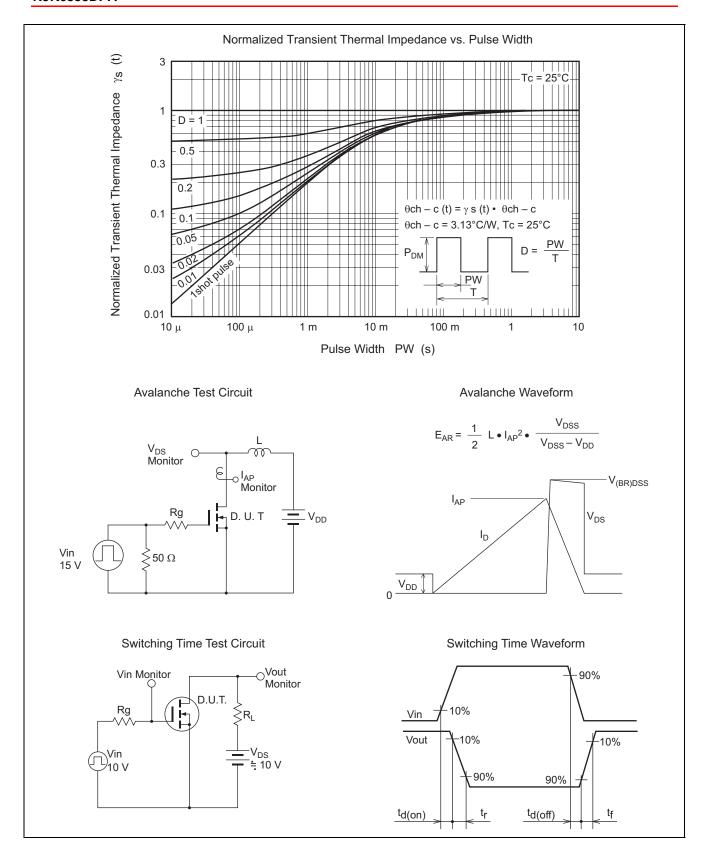
Item	Symbol	Min	Тур	Max	Unit	Test Conditions	
Drain to source breakdown voltage	$V_{(BR)DSS}$	30	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$	
Gate to source leak current	I _{GSS}	_	_	±0.1	μΑ	$V_{GS} = \pm 20 \text{ V}, V_{DS} = 0$	
Zero gate voltage drain current	I _{DSS}	_	_	1	μΑ	$V_{DS} = 30 \text{ V}, V_{GS} = 0$	
Gate to source cutoff voltage	$V_{GS(off)}$	1.2	_	2.5	V	$V_{DS} = 10 \text{ V}, I_{D} = 1 \text{ mA}$	
Static drain to source on state	R _{DS(on)}	_	4.0	5.2	mΩ	$I_D = 17.5 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note4}}$	
resistance	R _{DS(on)}	_	5.4	7.6	mΩ	$I_D = 17.5 \text{ A}, V_{GS} = 4.5 \text{ V}^{\text{Note4}}$	
Forward transfer admittance	y _{fs}	_	70	_	S	$I_D = 17.5 \text{ A}, V_{DS} = 10 \text{ V}^{\text{Note4}}$	
Input capacitance	Ciss	_	2180	_	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$	
Output capacitance	Coss	_	420	_	pF	f = 1 MHz	
Reverse transfer capacitance	Crss	_	135	_	pF		
Gate Resistance	Rg	_	2.0	_	Ω		
Total gate charge	Qg	_	14	_	nC	$V_{DD} = 10 \text{ V}, V_{GS} = 4.5 \text{ V},$	
Gate to source charge	Qgs	_	6.0	_	nC	I _D = 35 A	
Gate to drain charge	Qgd	_	3.0	_	nC		
Turn-on delay time	t _{d(on)}	_	8.5	_	ns	$V_{GS} = 10 \text{ V}, I_D = 17.5 \text{ A},$	
Rise time	t _r	_	4.8	_	ns	$V_{DD}\cong 10~V,~R_L=0.57~\Omega,$	
Turn-off delay time	t _{d(off)}	_	47.5	_	ns	$Rg = 4.7 \Omega$	
Fall time	t _f	_	6.0	_	ns]	
Body-drain diode forward voltage	V_{DF}	_	0.83	1.08	V	$I_F = 35 \text{ A}, V_{GS} = 0^{\text{Note4}}$	
Body-drain diode reverse recovery time	t _{rr}	_	25	_	ns	$I_F = 35 \text{ A}, V_{GS} = 0$ $di_F / dt = 100 \text{ A} / \mu \text{s}$	

Notes: 4. Pulse test

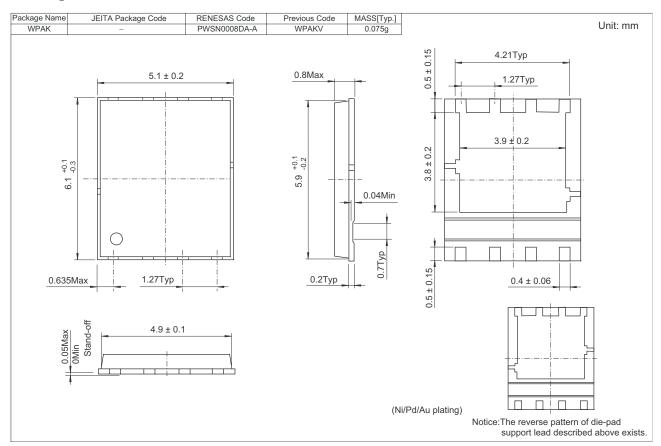
Main Characteristics







Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container		
RJK0353DPA-00-J0	2500 pcs	Taping		

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