

RJK4518DPK

Silicon N Channel MOS FET High Speed Power Switching

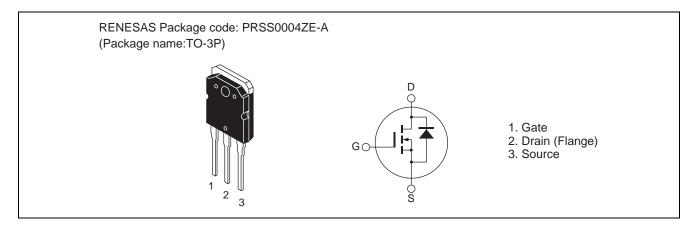
R07DS0132EJ0200 (Previous: REJ03G1529-0100) Rev.2.00

Sep 08, 2010

Features

- Low on-resistance $R_{DS(on)}=0.11~\Omega~typ.~(at~I_D=19.5~A,~V_{GS}=10~V,~Ta=25^{\circ}C)$
- Low leakage current
- High speed switching

Outline



Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	450	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	39	Α
Drain peak current	I _{D (pulse)} Note1	117	Α
Body-drain diode reverse drain current	I _{DR}	39	Α
Body-drain diode reverse drain peak current	I _{DR (pulse)} Note1	117	Α
Avalanche current	I _{AP} Note3	10	Α
Avalanche energy	E _{AR} Note3	5.6	mJ
Channel dissipation	Pch Note2	200	W
Channel to case thermal impedance	θch-c	0.625	°C/W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

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

- 2. Value at Tc = 25°C
- 3. STch = 25° C, Tch $\leq 150^{\circ}$ C

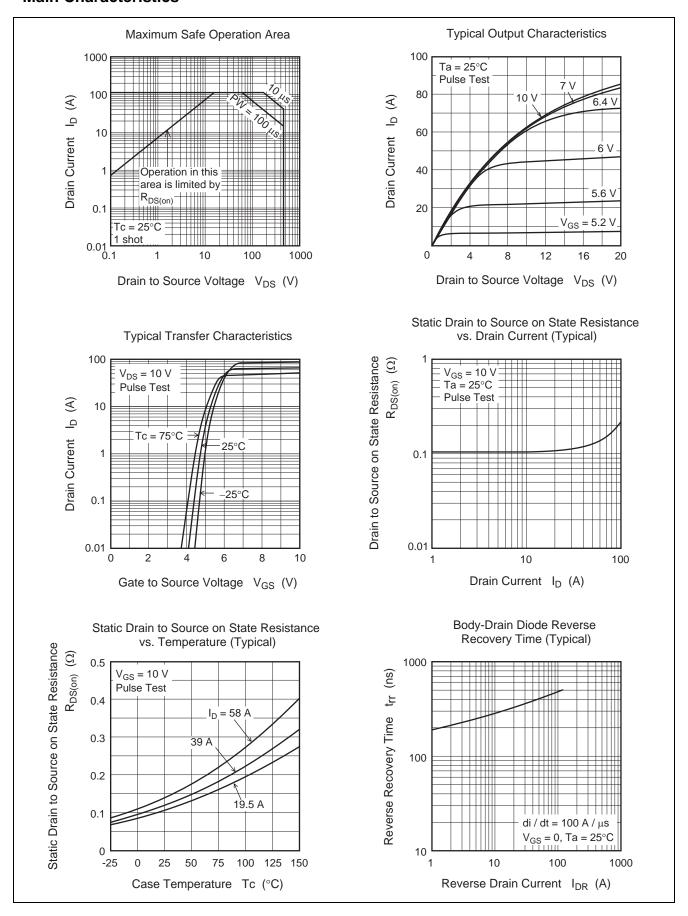
Electrical Characteristics

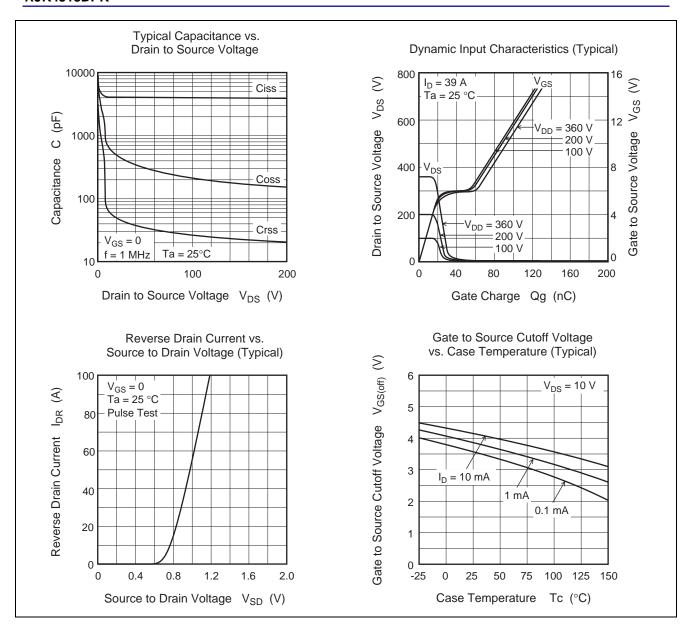
 $(Ta = 25^{\circ}C)$

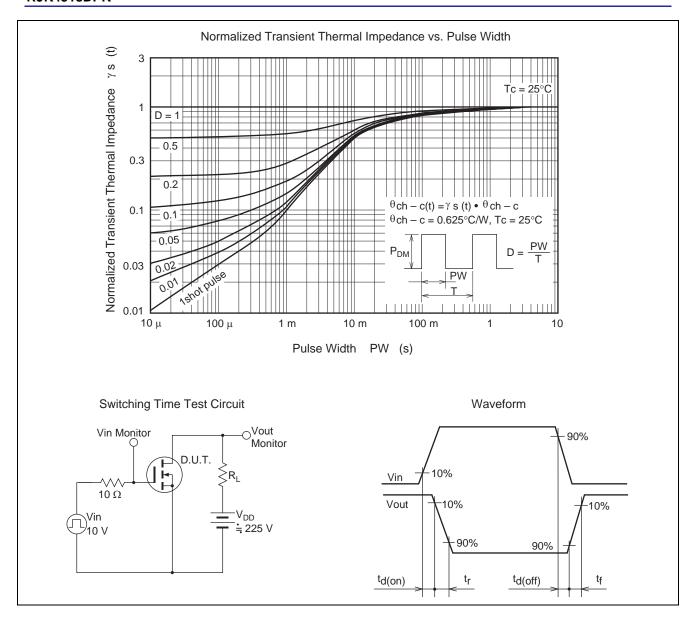
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	450	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Zero gate voltage drain current	I _{DSS}	_	_	1	μΑ	$V_{DS} = 450 \text{ V}, V_{GS} = 0$
Gate to source leak current	I _{GSS}	_	_	±0.1	μΑ	$V_{GS} = \pm 30 \text{ V}, V_{DS} = 0$
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)}	_	0.11	0.13	Ω	$I_D = 19.5 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note4}}$
Input capacitance	Ciss	_	4100	_	pF	V _{DS} = 25 V
Output capacitance	Coss	_	440	_	pF	V _{GS} = 0 f = 1 MHz
Reverse transfer capacitance	Crss	_	45	_	pF	
Turn-on delay time	t _{d(on)}	_	51	_	ns	$I_D = 19.5 \text{ A}$ $V_{GS} = 10 \text{ V}$ $R_L = 11.5 \Omega$ $Rg = 10 \Omega$
Rise time	t _r	_	118	_	ns	
Turn-off delay time	t _{d(off)}	_	128	_	ns	
Fall time	t _f	_	91	_	ns	
Total gate charge	Qg	_	93	_	nC	V _{DD} = 360 V
Gate to source charge	Qgs	_	21	_	nC	V _{GS} = 10 V I _D = 39 A
Gate to drain charge	Qgd	_	40	_	nC	
Body-drain diode forward voltage	V_{DF}	_	0.96	1.60	V	$I_F = 39 \text{ A}, V_{GS} = 0^{\text{Note4}}$
Body-drain diode reverse recovery time	t _{rr}	_	390	_	ns	$I_F = 39 \text{ A}, V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Notes: 4. Pulse test

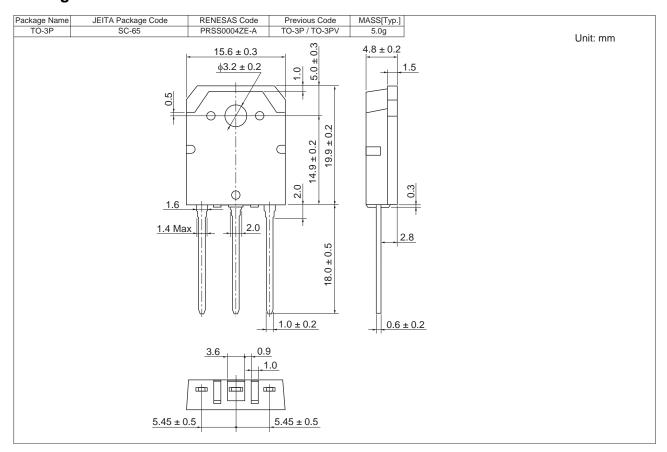
Main Characteristics







Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
RJK4518DPK-00-T0	360 pcs	Box (Tube)

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