

RJK6014DPP

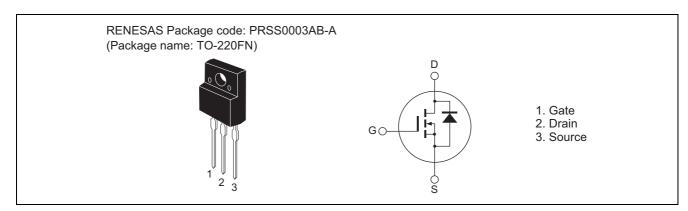
Silicon N Channel MOS FET High Speed Power Switching

REJ03G1531-0100 Rev.1.00 Apr 17, 2007

Features

- Low on-resistance
- Low leakage current
- High speed switching

Outline



Absolute Maximum Ratings

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

Item	Symbol	Ratings	Unit	
Drain to source voltage	V _{DSS}	600	V	
Gate to source voltage	V_{GSS}	±30	V	
Drain current	I _D Note4	16	Α	
Drain peak current	I _{D (pulse)} Note1	32	Α	
Body-drain diode reverse drain current	I _{DR}	16	Α	
Body-drain diode reverse drain peak current	I _{DR (pulse)} Note1	32	Α	
Avalanche current	I _{AP} Note3	4	A	
Avalanche energy	E _{AR} Note3	0.87	mJ	
Channel dissipation	Pch Note2	35	W	
Channel to case thermal impedance	θch-c	3.57	°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
- 4. Limited by maximum safe operation area

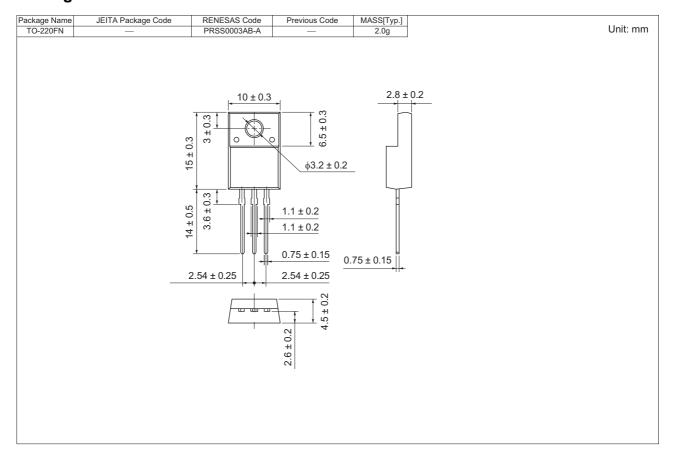
Electrical Characteristics

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

Item	Symbol	Min	Тур	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	μΑ	$V_{DS} = 600 \text{ V}, V_{GS} = 0$
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)}	_	0.475	0.575	Ω	$I_D = 8 \text{ A}, V_{GS} = 10 \text{ V}^{\text{Note5}}$
Input capacitance	Ciss	_	1800	_	pF	V _{DS} = 25 V
Output capacitance	Coss	_	170	_	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	_	20	_	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	_	36	_	ns	I _D = 8 A
Rise time	t _r	_	29	_	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	_	93	_	ns	$R_L = 37.5 \Omega$
Fall time	t _f	_	20	_	ns	$Rg = 10 \Omega$
Total gate charge	Qg	_	45	_	nC	V _{DD} = 480 V
Gate to source charge	Qgs	_	9	_	nC	V _{GS} = 10 V
Gate to drain charge	Qgd	_	20	_	nC	I _D = 16 A
Body-drain diode forward voltage	V_{DF}	_	0.91	1.50	V	$I_F = 16 \text{ A}, V_{GS} = 0^{\text{Note5}}$
Body-drain diode reverse recovery time	t _{rr}	_	390	_	ns	$I_F = 16 \text{ A}, V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Notes: 5. Pulse test

Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
RJK6014DPP-00-T2	1050 pcs	Box (Tube)

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