

RJK6013DPE

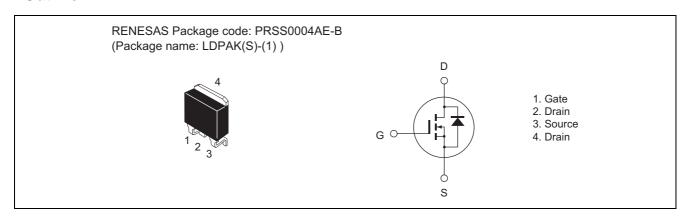
Silicon N Channel MOS FET High Speed Power Switching

REJ03G1535-0100 Rev.1.00 Apr 04, 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	11	А
Drain peak current	I _{D (pulse)} Note1	33	А
Body-drain diode reverse drain current	I _{DR}	11	А
Body-drain diode reverse drain peak current	I _{DR (pulse)} Note1	33	А
Avalanche current	I _{AP} Note3	4	А
Avalanche energy	E _{AR} Note3	0.87	mJ
Channel dissipation	Pch Note2	100	W
Channel to case thermal impedance	θch-c	1.25	°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

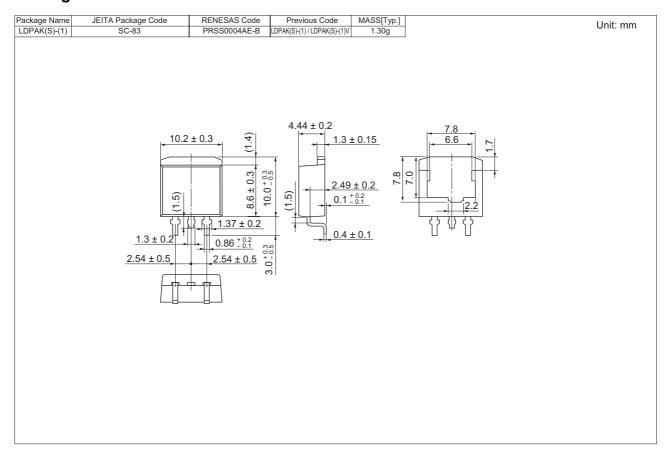
Electrical Characteristics

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

Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	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)}	1	0.58	0.70	Ω	$I_D = 5.5 \text{ A}, V_{GS} = 10 \text{ V}^{Note4}$
Input capacitance	Ciss	1	1450		pF	V _{DS} = 25 V
Output capacitance	Coss	_	140	_	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	_	17	_	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	_	33	_	ns	I _D = 5.5 A
Rise time	t _r	_	20	_	ns	V _{GS} = 10 V
Turn-off delay time	t _{d(off)}	_	87	_	ns	$R_L = 54.5 \Omega$
Fall time	t _f	_	15	_	ns	$Rg = 10 \Omega$
Total gate charge	Qg	_	37.5	_	nC	V _{DD} = 480 V
Gate to source charge	Qgs	_	7.3	_	nC	V _{GS} = 10 V
Gate to drain charge	Qgd	_	16.4	_	nC	I _D = 11 A
Body-drain diode forward voltage	V_{DF}	_	0.87	1.45	V	$I_F = 11 \text{ A}, V_{GS} = 0^{\text{Note4}}$
Body-drain diode reverse recovery time	t _{rr}	1	350		ns	$I_F = 11 \text{ A}, V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

Notes: 4. Pulse test

Package Dimensions



Ordering Information

Part No.		Quantity	Shipping Container
RJK6013DPE-00-J	3 1000 pc	3	Taping

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