

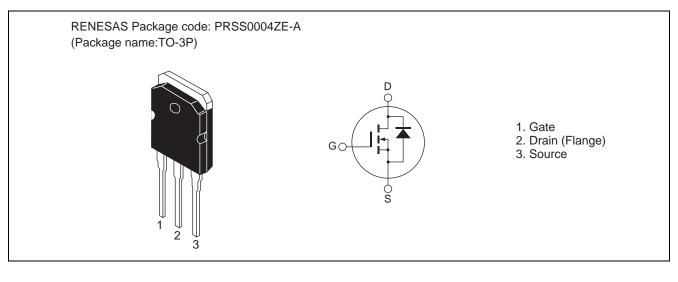
RJK5015DPK

Silicon N Channel MOS FET High Speed Power Switching

Features

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

Outline



Absolute Maximum Ratings

			$(Ta = 25^{\circ}C)$
ltem	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	500	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	ID	25	А
Drain peak current	I _{D (pulse)} Note1	75	А
Body-drain diode reverse drain current	I _{DR}	25	А
Body-drain diode reverse drain peak current	I _{DR (pulse)} Note1	75	А
Avalanche current	I _{AP} ^{Note3}	7	А
Avalanche energy	E _{AR} ^{Note3}	2.7	mJ
Channel dissipation	Pch ^{Note2}	150	W
Channel to case thermal impedance	θch-c	0.833	°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 $Tc = 25^{\circ}C$

3. STch = 25° C, Tch $\leq 150^{\circ}$ C

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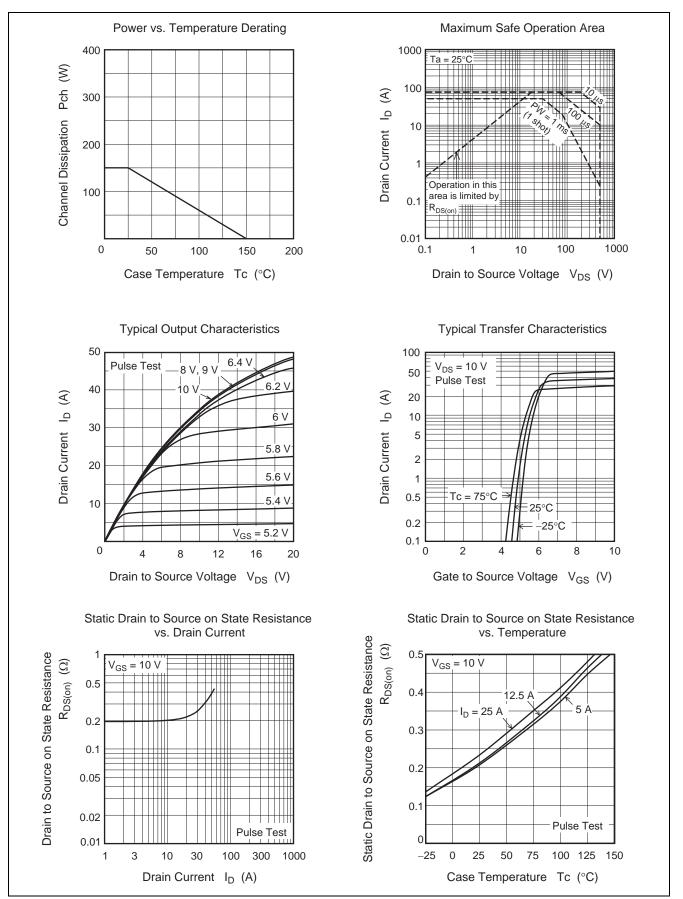
Electrical Characteristics

						$(Ta = 25^{\circ}C)$
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	500			V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Zero gate voltage drain current	I _{DSS}	_		1	μΑ	$V_{DS} = 500 \text{ V}, \text{ V}_{GS} = 0$
Gate to source leak current	I _{GSS}	_	_	±0.1	μΑ	$V_{GS}=\pm 30~V,~V_{DS}=0$
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	R _{DS(on)}	_	0.21	0.24	Ω	$I_D = 12.5 \text{ A}, V_{GS} = 10 \text{ V}^{Note4}$
resistance						
Input capacitance	Ciss	_	2600		pF	V _{DS} = 25 V
Output capacitance	Coss	_	270		pF	V _{GS} = 0 f = 1 MHz
Reverse transfer capacitance	Crss		32		рF	
Turn-on delay time	t _{d(on)}	_	42	_	ns	I _D = 12.5 A
Rise time	tr	_	59	_	ns	$V_{GS} = 10 V$ $R_L = 20 \Omega$ $Rg = 10 \Omega$
Turn-off delay time	t _{d(off)}	_	103		ns	
Fall time	t _f	_	45		ns	
Total gate charge	Qg	_	66		nC	V _{DD} = 400 V
Gate to source charge	Qgs	_	14		nC	V _{GS} = 10 V I _D = 25 A
Gate to drain charge	Qgd	_	29		nC	
Body-drain diode forward voltage	V _{DF}	_	0.96	1.60	V	$I_F = 25 \text{ A}, V_{GS} = 0^{Note4}$
Body-drain diode reverse recovery time	trr	_	380	_	ns	$I_F = 25 \text{ A}, V_{GS} = 0$
						di _F /dt = 100 A/µs

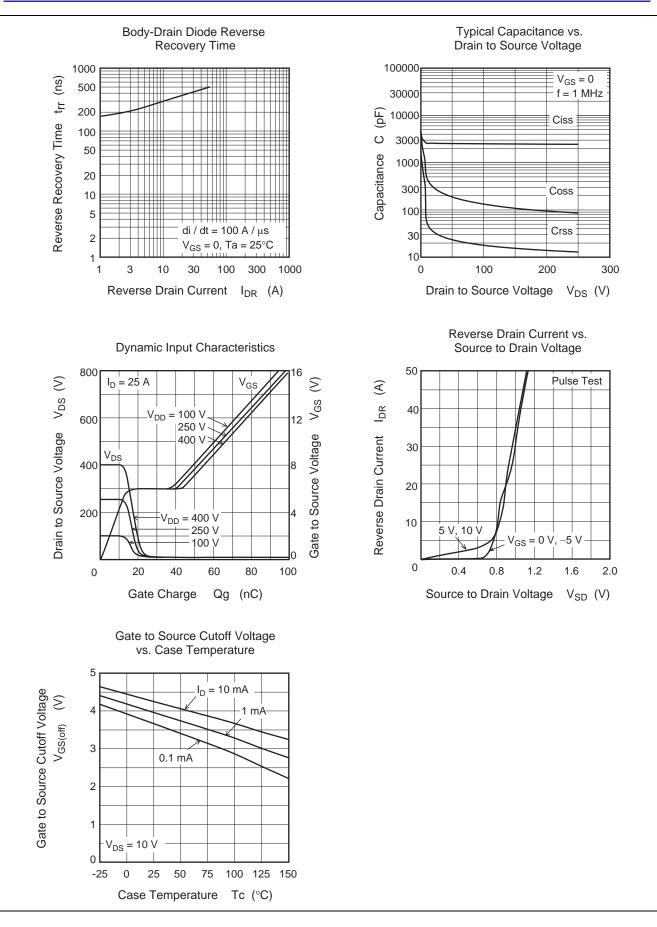
Notes: 4. Pulse test



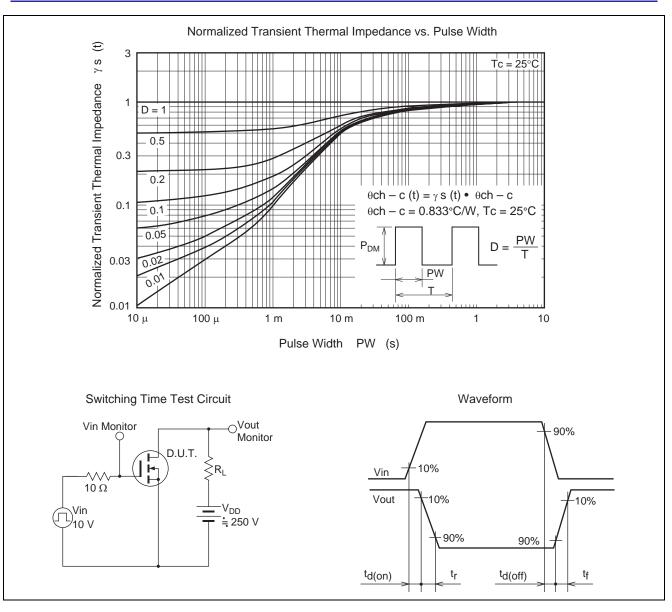
Main Characteristics





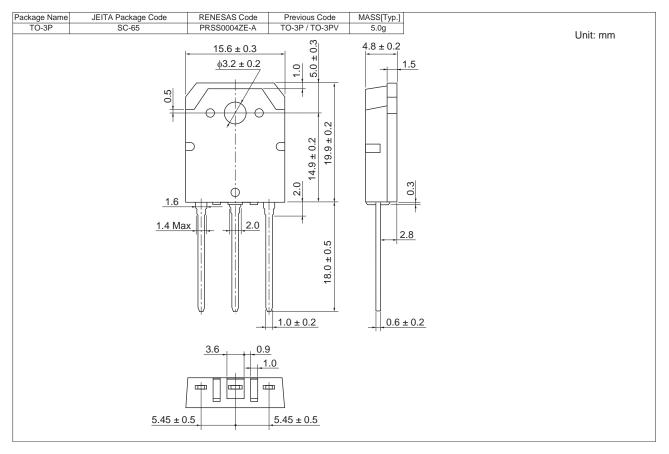








Package Dimensions



Ordering Information

Part No.	Quantity	Shipping Container
RJK5015DPK-00-T0	360 pcs	Box (Tube)



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