

# 2SK1573

## Silicon N Channel MOS FET

REJ03G0955-0200

(Previous: ADE-208-1295)

Rev.2.00 Sep 07, 2005

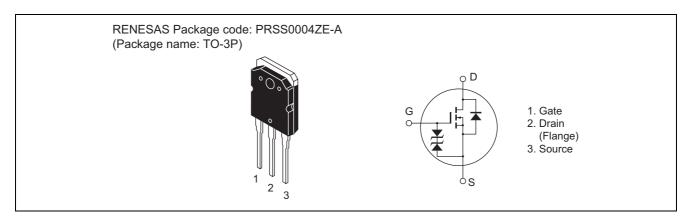
#### **Application**

High speed power switching

#### **Features**

- Low on-resistance
- High speed switching
- Low drive current
- No secondary breakdown
- Suitable for switching regulator and DC-DC converter

#### **Outline**



## **Absolute Maximum Ratings**

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

Item	Symbol	Ratings	Unit
Drain to source voltage	V <sub>DSS</sub>	600	V
Gate to source voltage	V <sub>GSS</sub>	±30	V
Drain current	I <sub>D</sub>	15	А
Drain peak current	I <sub>D(pulse)</sub> *1	60	А
Body to drain diode reverse drain current	I <sub>DR</sub>	15	А
Channel dissipation	Pch <sup>*2</sup>	125	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

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

2. Value at  $T_C = 25^{\circ}C$ 

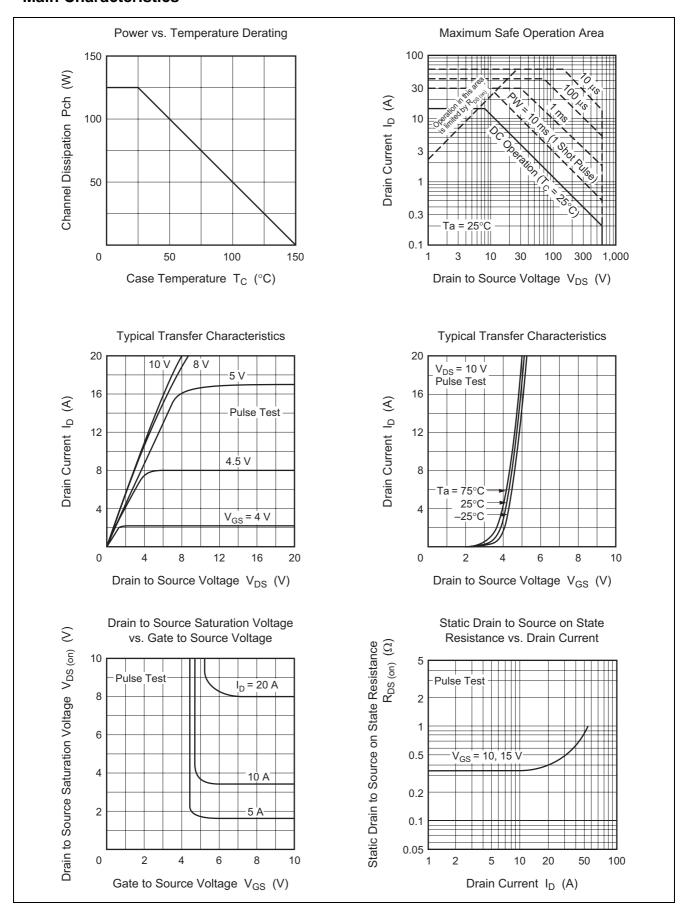
#### **Electrical Characteristics**

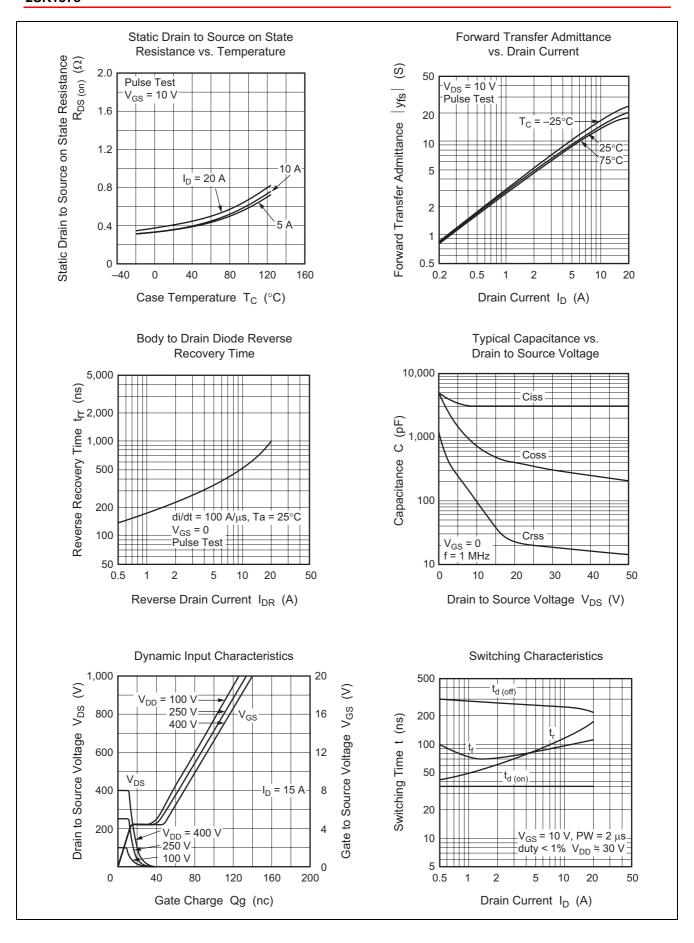
 $(Ta = 25^{\circ}C)$ 

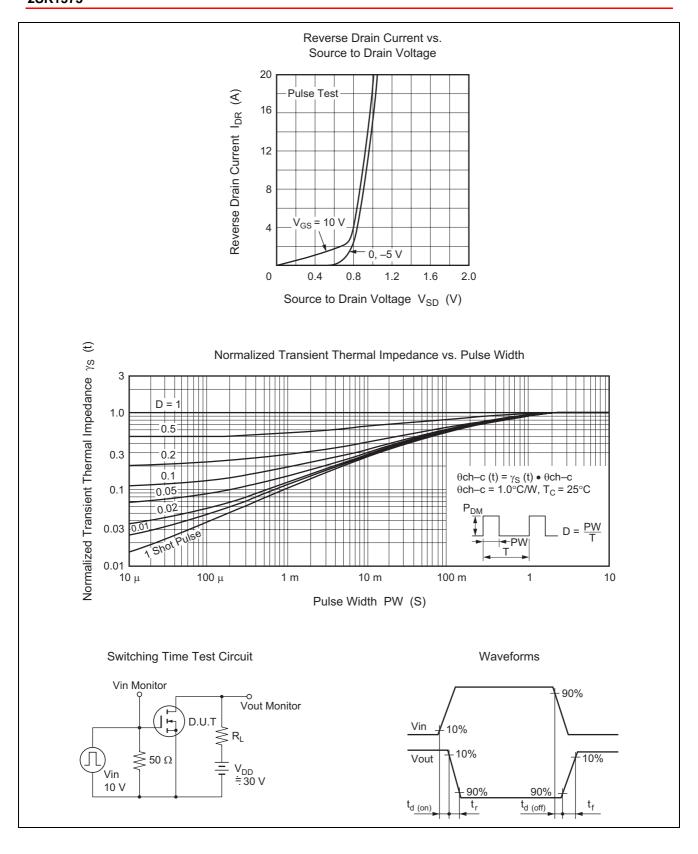
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	600	_	_	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	±30		1	V	$I_G = \pm 100 \ \mu A, \ V_{DS} = 0$
Gate to source leak current	I <sub>GSS</sub>	_		±10	μΑ	$V_{GS} = \pm 25 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I <sub>DSS</sub>	_		250	μΑ	$V_{DS} = 500 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	2.0		3.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state	R <sub>DS(on)</sub>	_	0.35	0.50	Ω	$I_D = 8 \text{ A}, V_{GS} = 10 \text{ V}^{*3}$
resistance						
Forward transfer admittance	y <sub>fs</sub>	9	14		S	$I_D = 8 \text{ A}, V_{DS} = 10 \text{ V}^{*3}$
Input capacitance	Ciss	_	3150		pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$
Output capacitance	Coss	_	700	_	pF	f = 1 MHz
Reverse transfer capacitance	Crss	_	90	_	pF	
Turn-on delay time	t <sub>d(on)</sub>	_	35	_	ns	$I_D = 8 \text{ A}, V_{GS} = 10 \text{ V},$
Rise time	t <sub>r</sub>	_	105	_	ns	$R_L = 3.75 \Omega$
Turn-off delay time	t <sub>d(off)</sub>	_	250	_	ns	
Fall time	t <sub>f</sub>	_	90	_	ns	
Body to drain diode forward voltage	$V_{DF}$	_	1.0	_	V	I <sub>F</sub> = 15 A, V <sub>GS</sub> = 0
Body to drain diode reverse recovery	t <sub>rr</sub>	_	680	_	ns	$I_F = 15 \text{ A}, V_{GS} = 0,$
time						$di_F/dt = 100 A/\mu s$

Note: 3. Pulse test

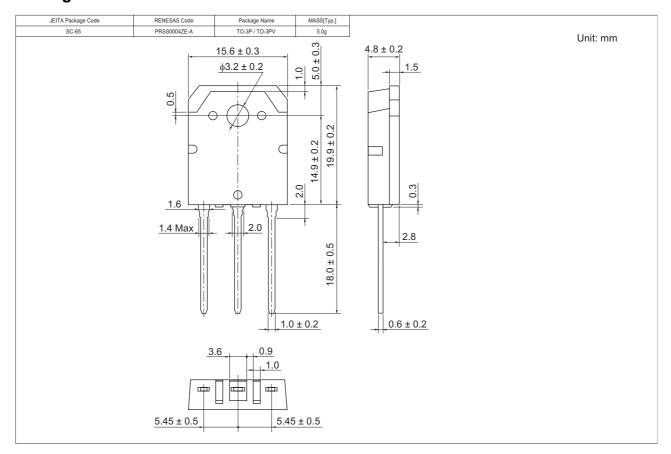
#### **Main Characteristics**







## **Package Dimensions**



### **Ordering Information**

Part Name	Quantity	Shipping Container
2SK1573-E	360 pcs	Box (Tube)

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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