

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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## 2SK2315

### Silicon N Channel MOS FET

REJ03G1006-0200  
(Previous: ADE-208-1354)  
Rev.2.00  
Sep.07,2005

#### Application

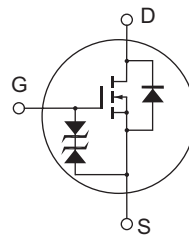
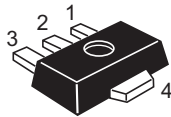
High speed power switching

#### Features

- Low on-resistance
- High speed switching
- Low drive current
- 2.5 V gate drive device can be driven from 3 V source.
- Suitable for DC-DC converter, motor drive, power switch, solenoid drive

#### Outline

RENESAS Package code: PLZZ0004CA-A  
(Package name: UPAK<sup>®</sup>)



1. Gate
2. Drain
3. Source
4. Drain

Note: Marking is "TY"

\*UPAK is a trademark of Renesas Technology Corp.

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	60	V
Gate to source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	2	A
Drain peak current	$I_{D(pulse)}^{*1}$	4	A
Body to drain diode reverse drain current	$I_{DR}$	2	A
Channel dissipation	$P_{ch}^{*2}$	1	W
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

- Notes: 1.  $PW \leq 10 \mu s$ , duty cycle  $\leq 1 \%$   
 2. When using the alumina ceramic board ( $12.5 \times 20 \times 0.7mm$ )

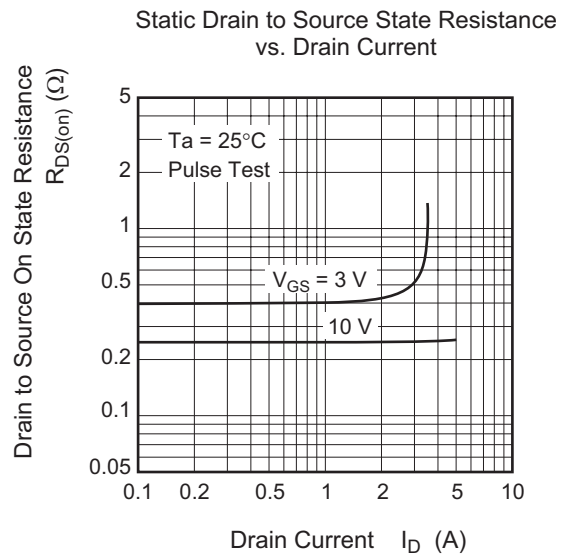
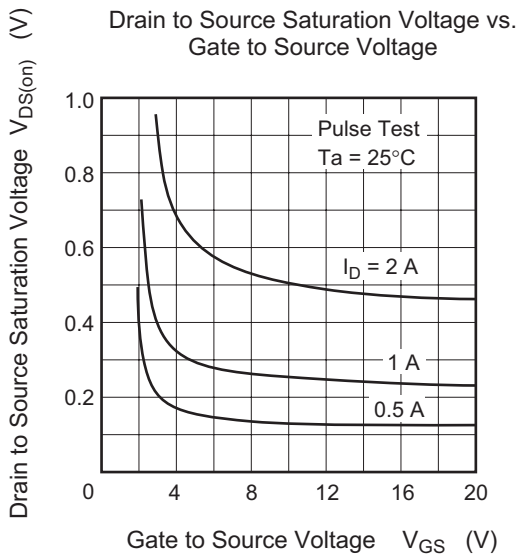
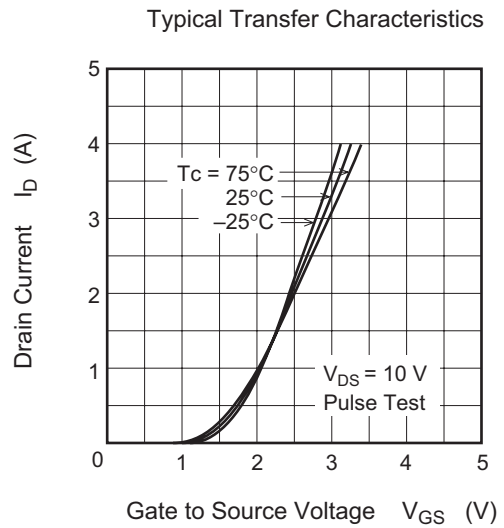
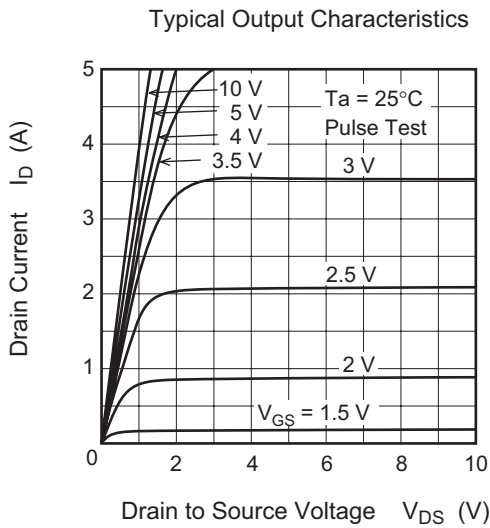
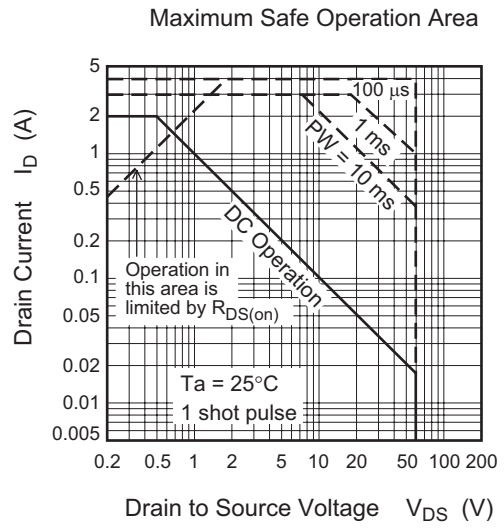
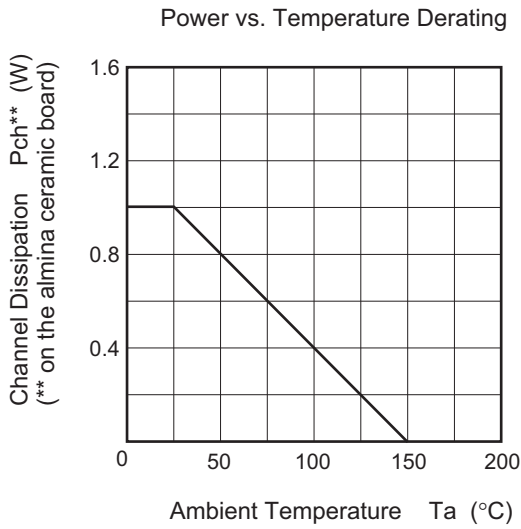
## Electrical Characteristics

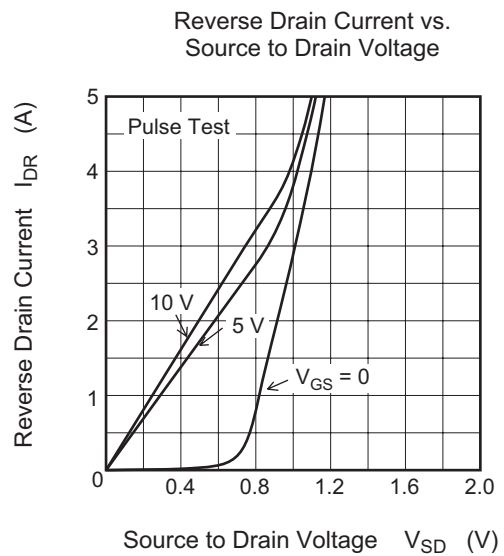
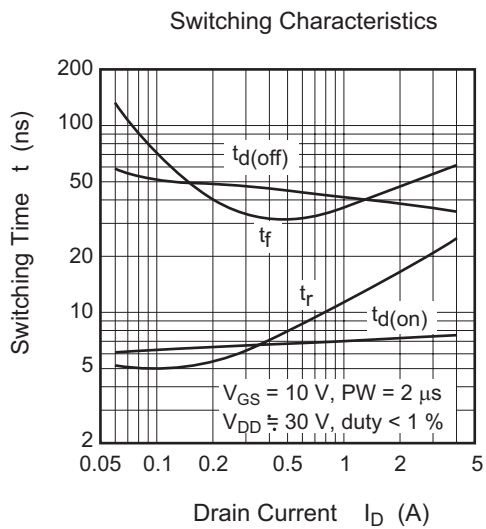
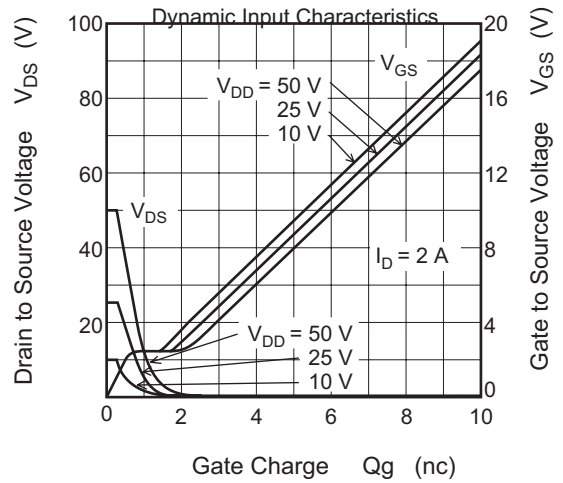
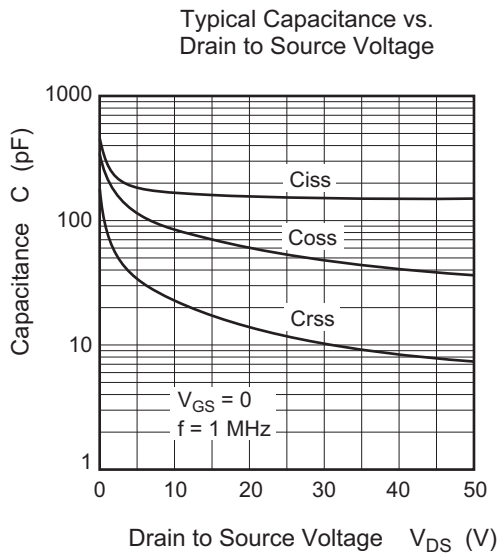
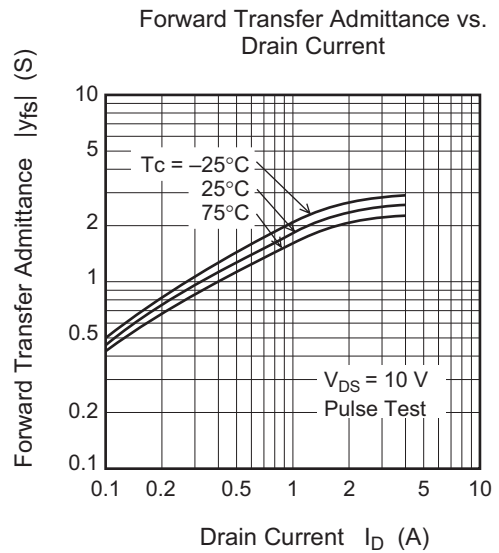
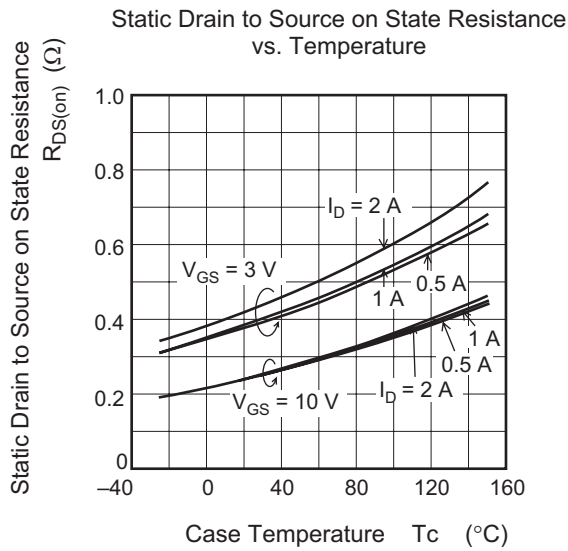
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	60	—	—	V	$I_D = 10 \text{ mA}$ , $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100 \mu A$ , $V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 5$	$\mu A$	$V_{GS} = \pm 16 \text{ V}$ , $V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	5	$\mu A$	$V_{DS} = 50 \text{ V}$ , $V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.5	—	1.5	V	$I_D = 1 \text{ mA}$ , $V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.4	0.6	$\Omega$	$I_D = 0.3 \text{ A}$ , $V_{GS} = 3 \text{ V}^{*3}$
		—	0.35	0.45	$\Omega$	$I_D = 1 \text{ A}$ , $V_{GS} = 4 \text{ V}^{*3}$
Forward transfer admittance	$ y_{fs} $	1.5	1.8	—	S	$I_D = 1 \text{ A}$ , $V_{DS} = 10 \text{ V}^{*3}$
Input capacitance	$C_{iss}$	—	173	—	pF	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0$ , $f = 1 \text{ MHz}$
Output capacitance	$C_{oss}$	—	85	—	pF	
Reverse transfer capacitance	$C_{rss}$	—	23	—	pF	
Turn-on time	$t_{on}$	—	21	—	ns	$I_D = 1 \text{ A}$ , $R_L = 30 \Omega$ ,
Turn-off time	$t_{off}$	—	85	—	ns	$V_{GS} = 10 \text{ V}$

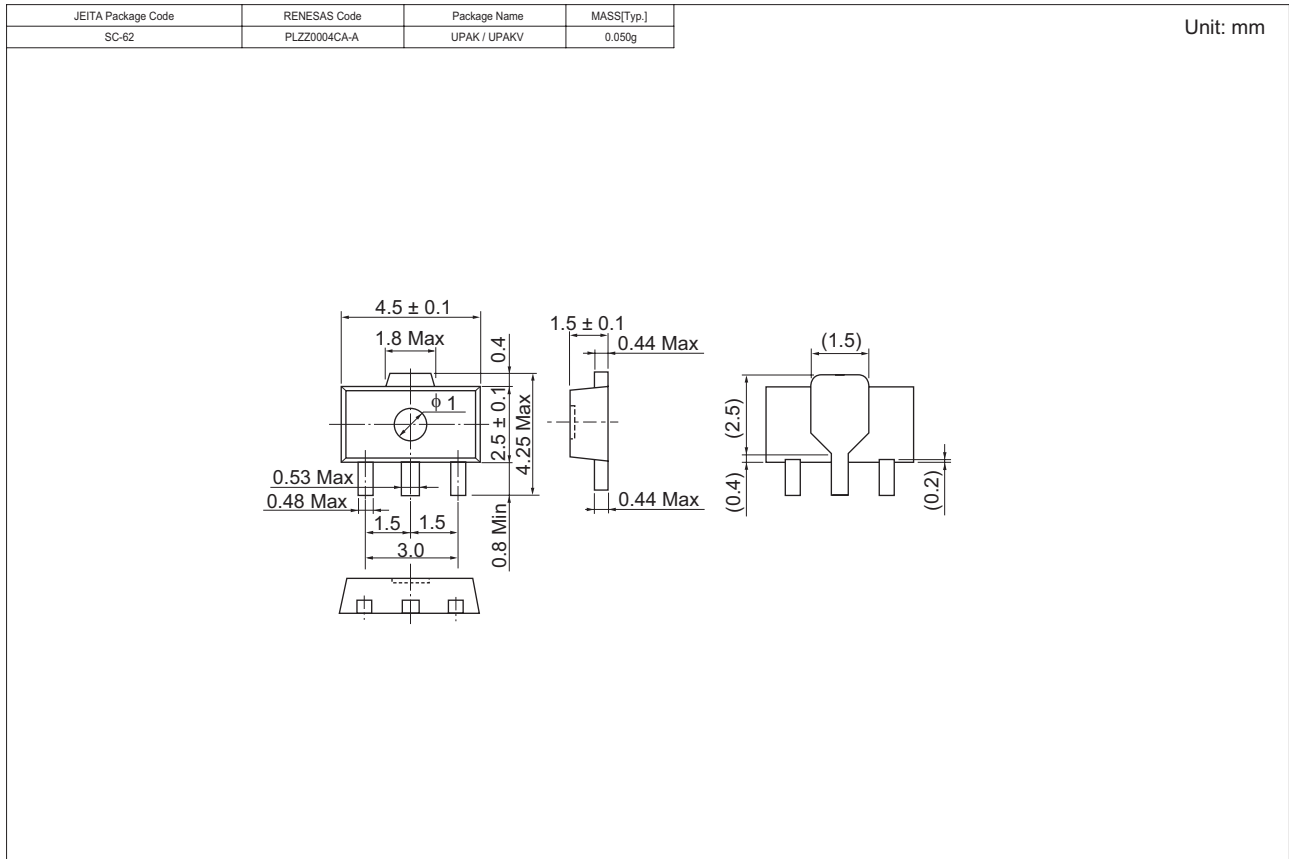
Note: 3. Pulse Test

### Main Characteristics





## Package Dimensions



## Ordering Information

Part Name	Quantity	Shipping Container
2SK2315TYTL-E	1000 pcs	Taping
2SK2315TYTR-E	1000 pcs	Taping

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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