

2SK1933

Silicon N Channel MOS FET

REJ03G0984-0200

(Previous: ADE-208-1332)

Rev.2.00

Sep 07, 2005

Application

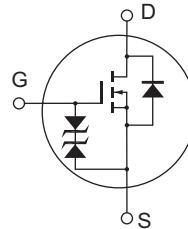
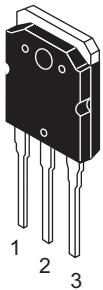
High speed power switching

Features

- Low on-resistance
- High speed switching
- No secondary breakdown
- Suitable for switching regulator

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name: TO-3P)



1. Gate
2. Source (Flange)
3. Drain

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V _{DSS}	900	V
Gate to source voltage	V _{GSS}	±30	V
Drain current	I _D	10	A
Drain peak current	I _{D(pulse)} ^{*1}	30	A
Body to drain diode reverse drain current	I _{DR}	10	A
Channel dissipation	P _{ch} ^{*2}	150	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10 µs, duty cycle ≤ 1 %

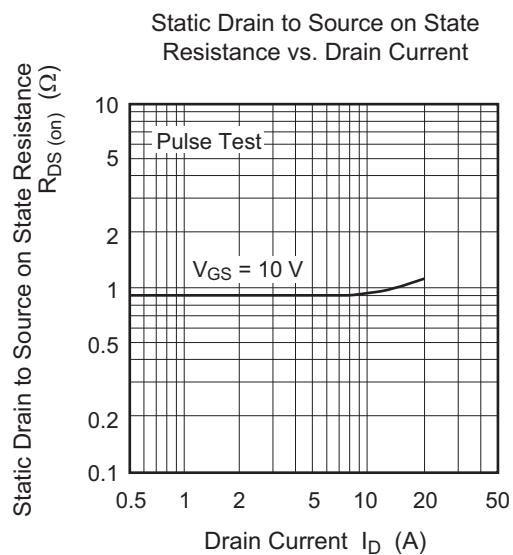
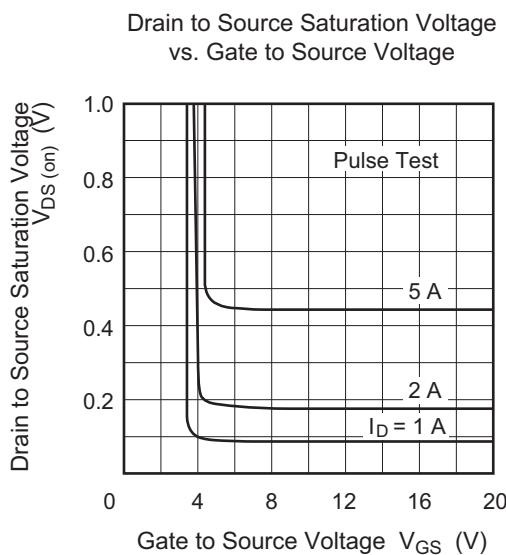
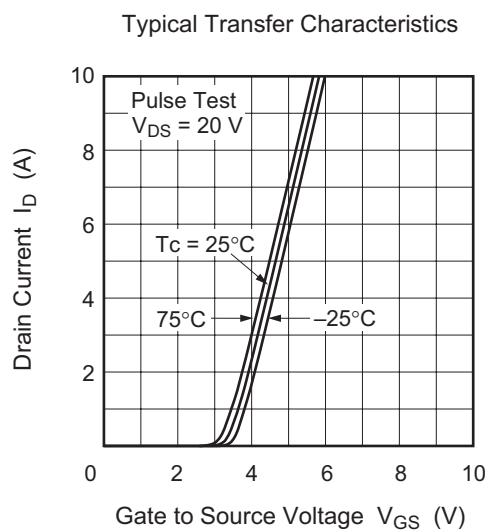
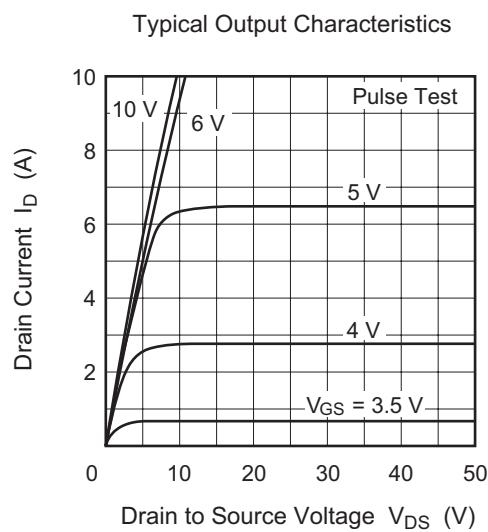
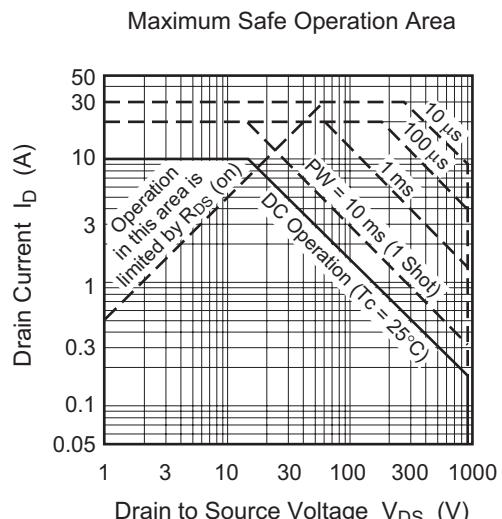
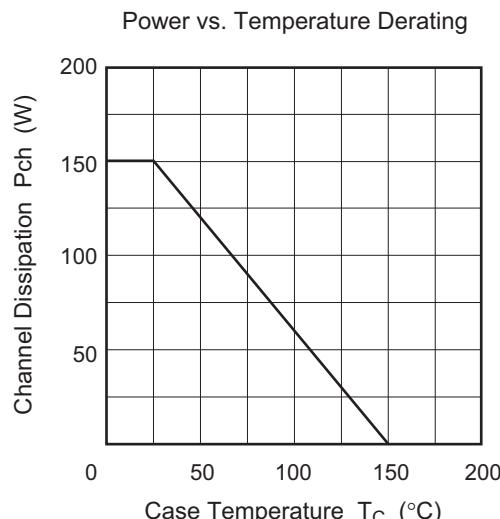
2. Value at T_c = 25°C**Electrical Characteristics**

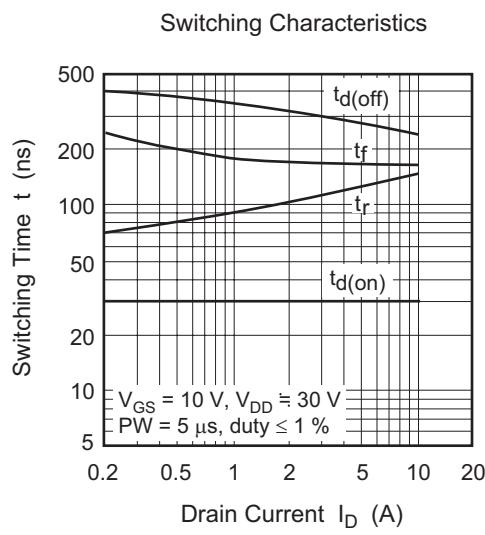
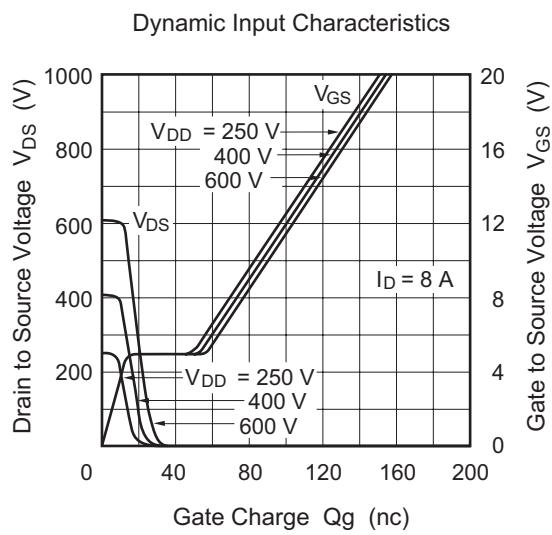
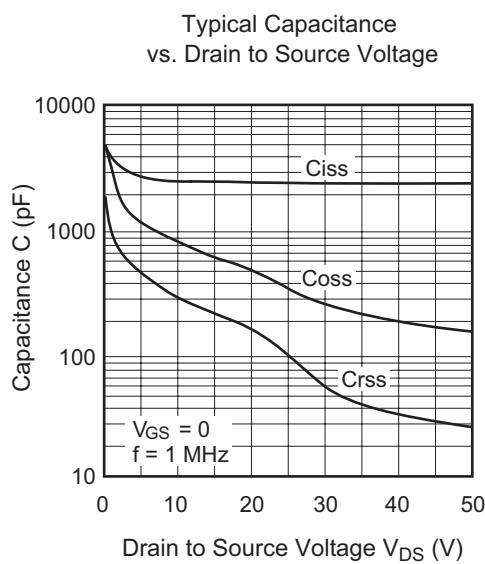
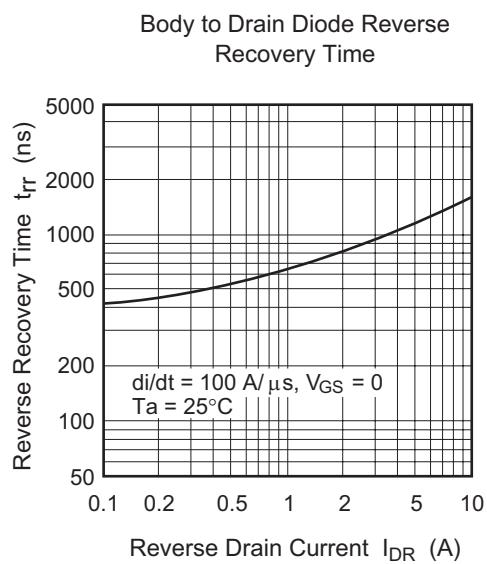
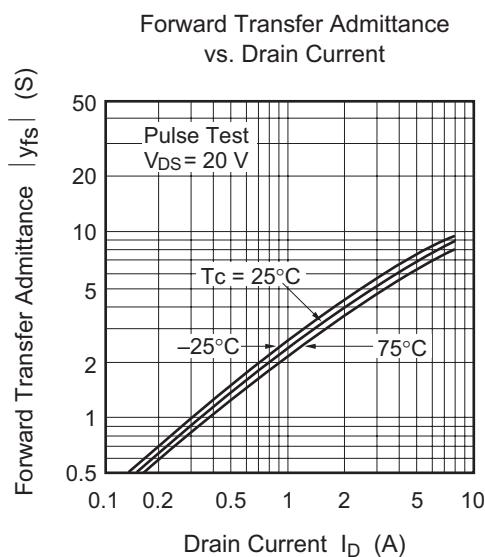
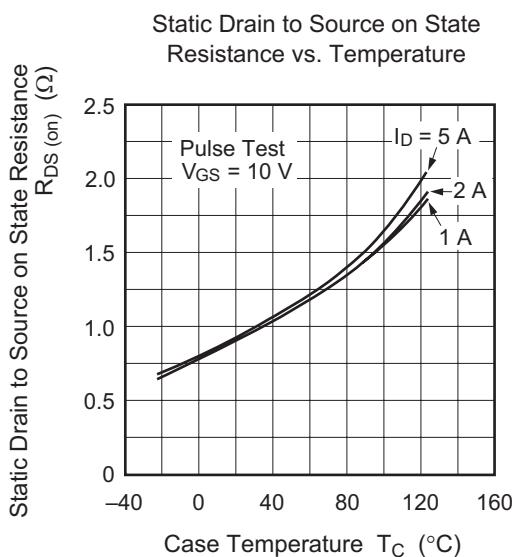
(Ta = 25°C)

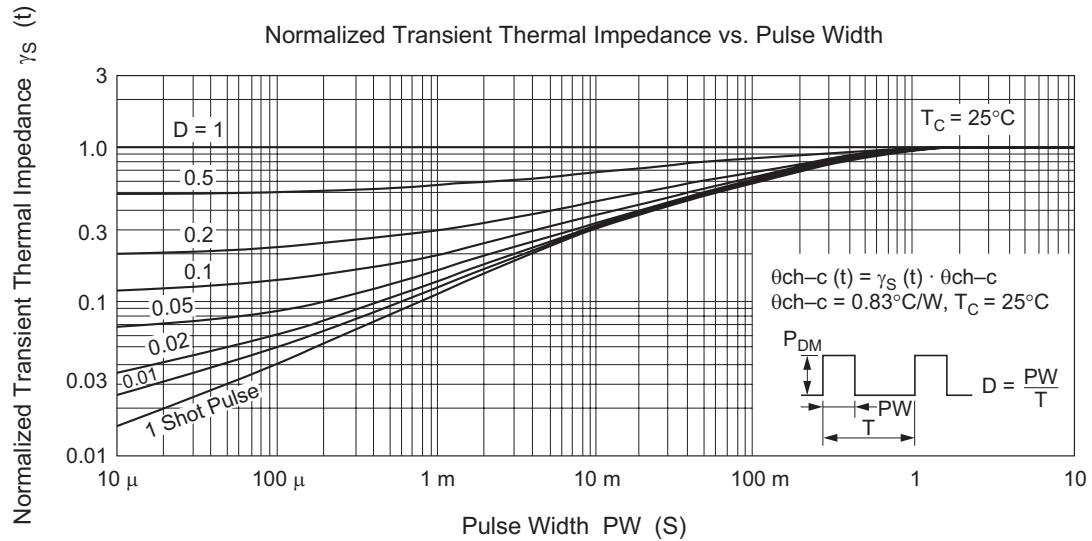
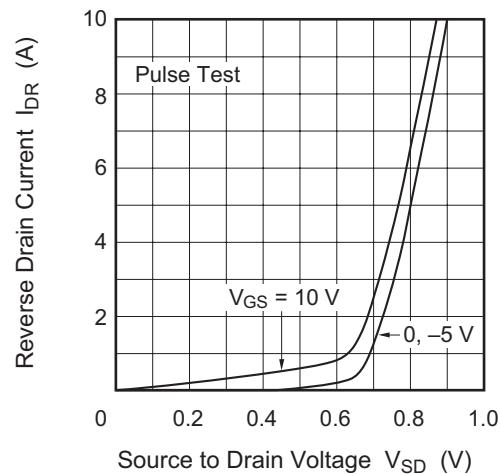
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	900	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±30	—	—	V	I _G = ±100 µA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	µA	V _{GS} = ±25 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	250	µA	V _{DS} = 720 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	2.0	—	3.0	V	I _D = 1 mA, V _{DS} = 10 V
Static drain to source on state resistance	R _{DS(on)}	—	0.9	1.2	Ω	I _D = 5 A, V _{GS} = 10 V ^{*1}
Forward transfer admittance	y _{fs}	4.5	7	—	S	I _D = 5 A, V _{DS} = 20 V ^{*1}
Input capacitance	C _{iss}	—	2620	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz
Output capacitance	C _{oss}	—	830	—	pF	
Reverse transfer capacitance	C _{rss}	—	320	—	pF	
Turn-on delay time	t _{d(on)}	—	30	—	ns	I _D = 5 A, V _{GS} = 10 V, R _L = 6 Ω
Rise time	t _r	—	140	—	ns	
Turn-off delay time	t _{d(off)}	—	285	—	ns	
Fall time	t _f	—	170	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.9	—	V	I _F = 10 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	1600	—	ns	I _F = 10 A, V _{GS} = 0, di _F /dt = 100 A/µs

Note: 1. Pulse Test

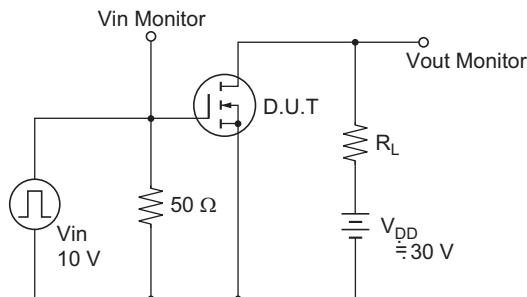
Main Characteristics



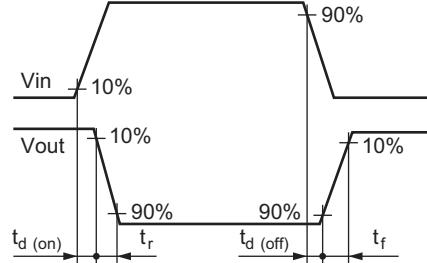


Reverse Drain Current vs.
Source to Drain Voltage

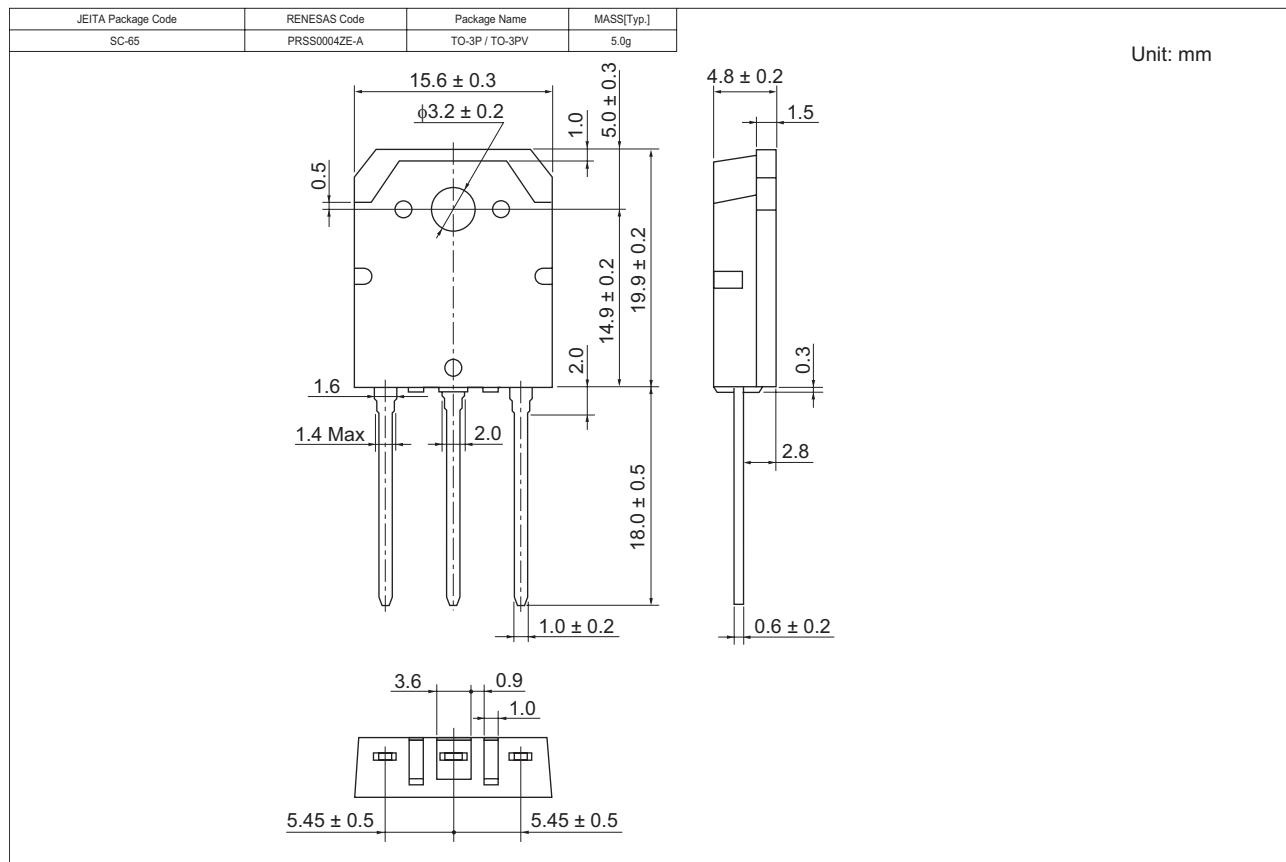
Switching Time Test Circuit



Waveforms



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK1933-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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450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

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Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
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Renesas Technology (Shanghai) Co., Ltd.
Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China
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Renesas Technology Singapore Pte. Ltd.
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> 2-796-3115, Fax: <82> 2-796-2145

Renesas Technology Malaysia Sdn. Bhd.
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510