

2SJ386

Silicon P Channel MOS FET

REJ03G0861-0200
(Previous: ADE-208-1195)
Rev.2.00
Sep 07, 2005

Description

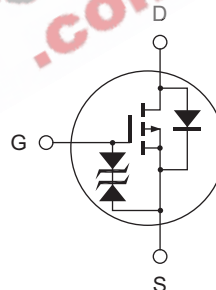
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- 4 V gate drive device can be driven from 5 V source
- Suitable for Switching regulator, DC-DC converter

Outline

RENESAS Package code: PRSS0003DC-A
(Package name: TO-92 Mod)



1. Source
2. Drain
3. Gate

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	-30	V
Gate to source voltage	V _{GSS}	±20	V
Drain current	I _D	-3	A
Drain peak current	I _{D (pulse)} ^{Note 1}	-5	A
Body to drain diode reverse drain current	I _{DR}	-3	A
Channel dissipation	P _{ch}	0.9	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%

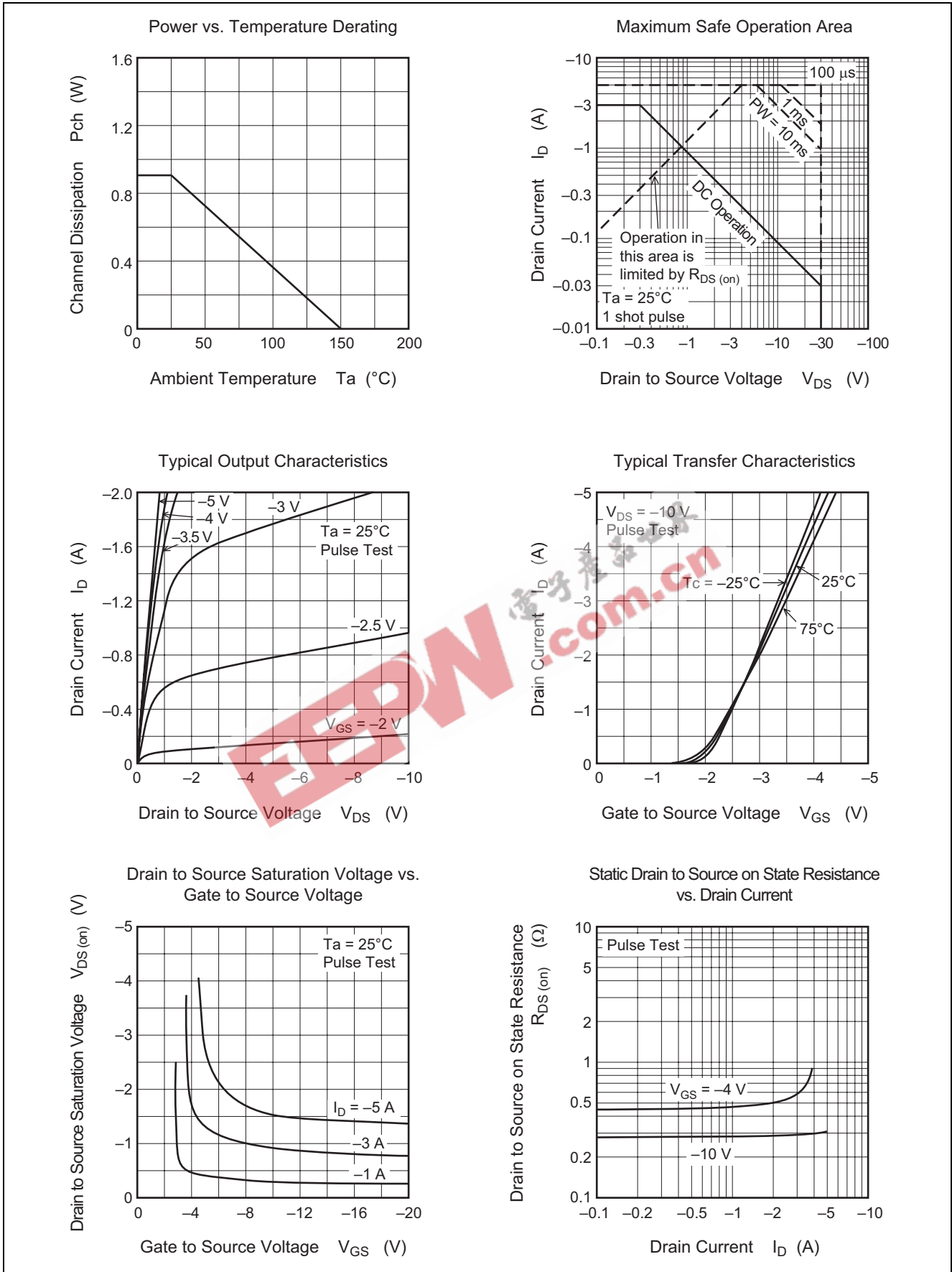
Electrical Characteristics

(Ta = 25°C)

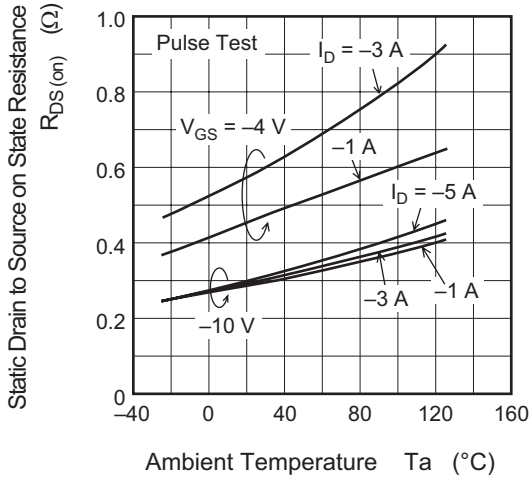
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	-30	—	—	V	I _D = -10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR) GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	-10	μA	V _{DS} = -24 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS (off)}	-1.0	—	-2.5	V	I _D = -1 mA, V _{DS} = -10 V
Static drain to source on state resistance	R _{DS (on)}	—	0.3	0.4	Ω	I _D = -2 A, V _{GS} = -10 V ^{Note 2}
	R _{DS (on)}	—	0.55	0.8	Ω	I _D = -2 A, V _{GS} = -4 V ^{Note 2}
Forward transfer admittance	y _{fs}	1.0	1.7	—	S	I _D = -1 A, V _{DS} = -10 V ^{Note 2}
Input capacitance	C _{iss}	—	177	—	pF	V _{DS} = -10 V
Output capacitance	C _{oss}	—	120	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rss}	—	59	—	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	—	8	—	ns	I _D = -2 A
Rise time	t _r	—	28	—	ns	V _{GS} = -10 V
Turn-off delay time	t _{d (off)}	—	45	—	ns	R _L = 15 Ω
Fall time	t _f	—	60	—	ns	

Note: 2. Pulse test

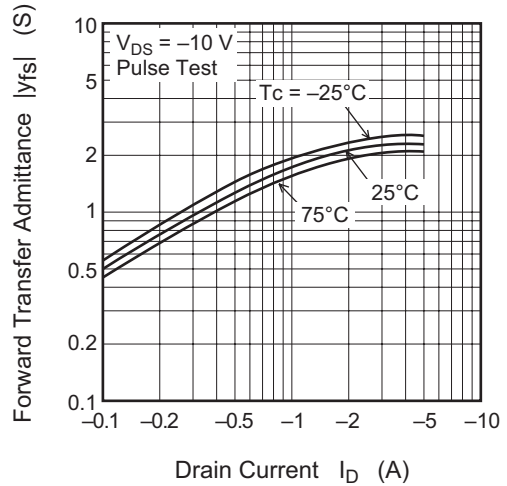
Main Characteristics



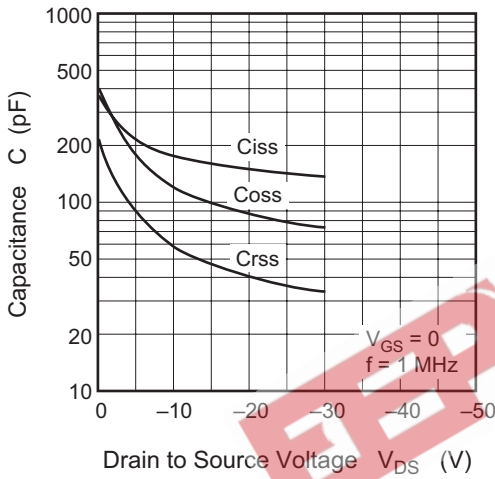
Static Drain to Source on State Resistance vs. Temperature



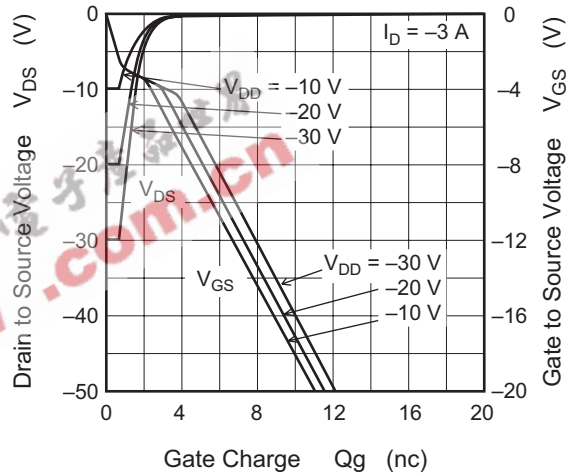
Forward Transfer Admittance vs. Drain Current



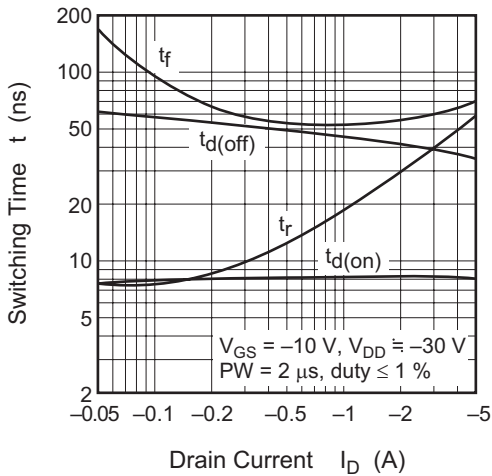
Typical Capacitance vs. Drain to Source Voltage



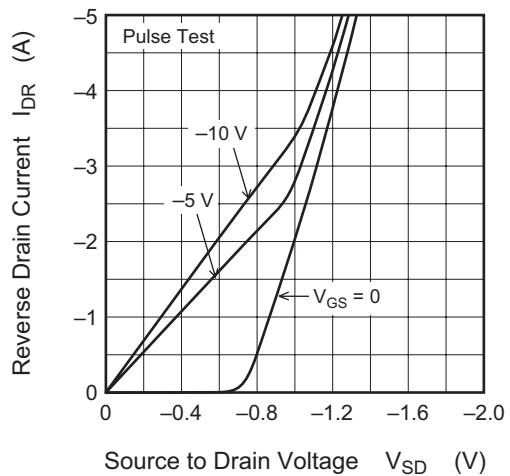
Dynamic Input Characteristics



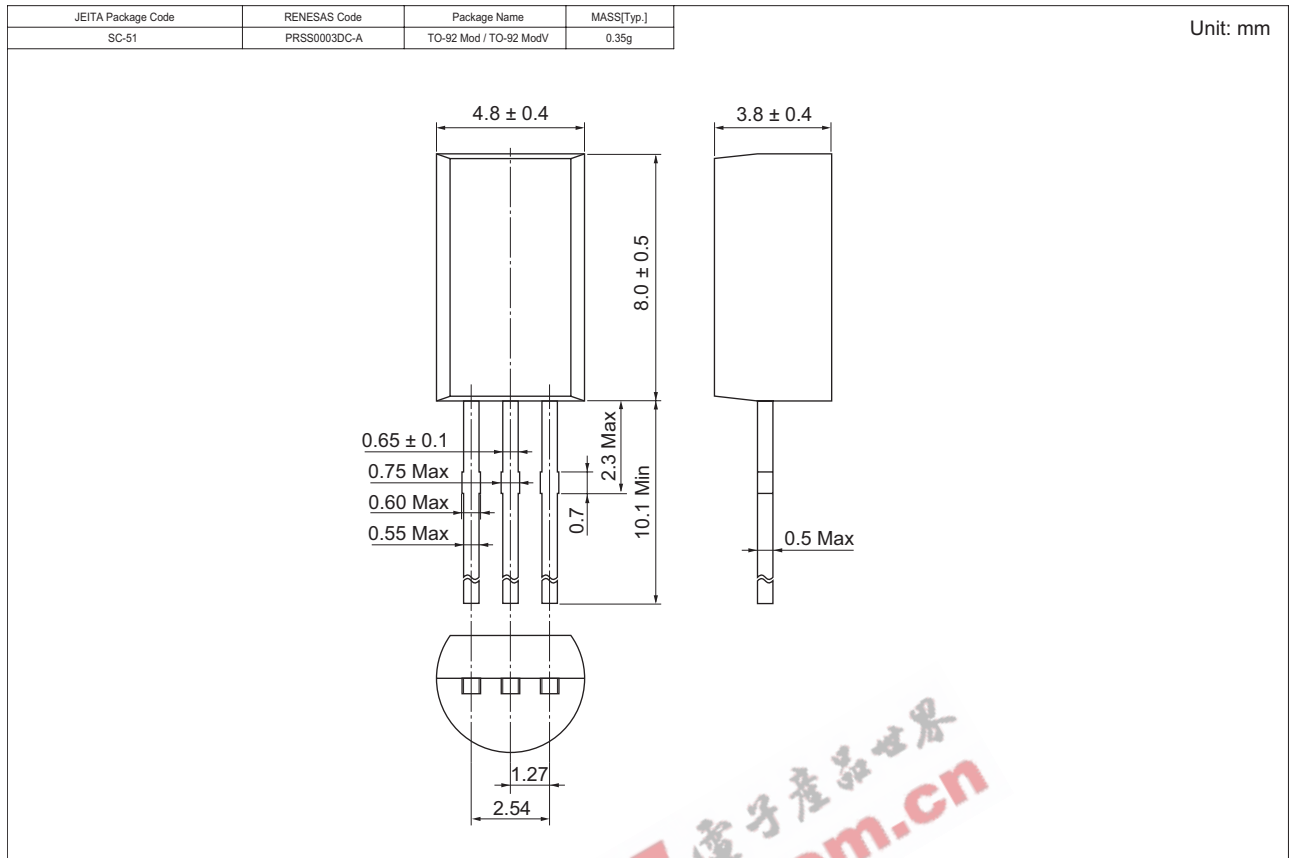
Switching Characteristics



Reverse Drain Current vs. Source to Drain Voltage



Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SJ386TZ-E	2500 pcs	Taping

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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

Renesas Technology Europe Limited

Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology Hong Kong Ltd.

7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.

10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology (Shanghai) Co., Ltd.

Unit2607 Ruijing Building, No.205 Maoming Road (S), Shanghai 200020, China
Tel: <86> (21) 6472-1001, Fax: <86> (21) 6415-2952

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