

## 2SK1337

### Silicon N Channel MOS FET

REJ03G0934-0200  
(Previous: ADE-208-1274)  
Rev.2.00  
Sep 07, 2005

#### Application

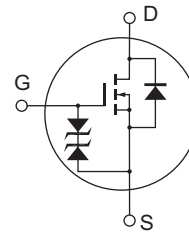
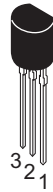
High speed power switching

#### Features

- Low on-resistance
- High speed switching
- Low drive current
- 4 V gate drive device
  - Can be driven from 5 V source
- Suitable for motor drive, DC-DC converter, power switch and solenoid drive

#### Outline

RENESAS Package code: PRSS0003ZA-A  
(Package name: TO-92(1))



1. Source
2. Drain
3. Gate

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DSS}$	100	V
Gate to source voltage	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	0.3	A
Drain peak current	$I_{D(pulse)}^{*1}$	1.2	A
Body to drain diode reverse drain current	$I_{DR}$	0.3	A
Channel dissipation	Pch	400	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%

## Electrical Characteristics

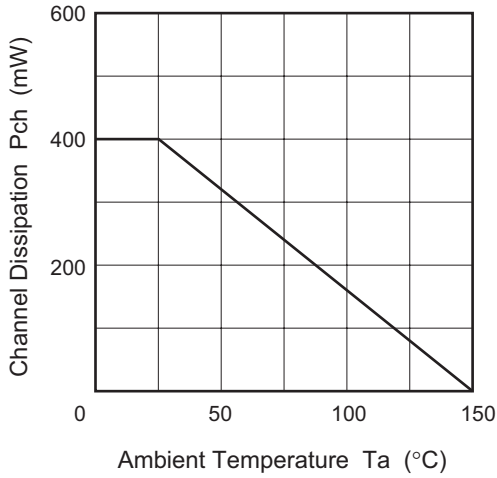
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	100	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100 \mu\text{A}, V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 10$	μA	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	50	μA	$V_{DS} = 80 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	1.0	—	2.0	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	3.5	4.5	Ω	$I_D = 0.2 \text{ A}, V_{GS} = 10 \text{ V}^{*2}$
		—	4.0	6.5	Ω	$I_D = 0.2 \text{ A}, V_{GS} = 4 \text{ V}^{*2}$
Forward transfer admittance	$ y_{fs} $	0.22	0.35	—	S	$I_D = 0.2 \text{ A}, V_{DS} = 10 \text{ V}^{*2}$
Input capacitance	$C_{iss}$	—	35	—	pF	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$
Output capacitance	$C_{oss}$	—	14	—	pF	
Reverse transfer capacitance	$C_{rss}$	—	3.5	—	pF	
Turn-on delay time	$t_{d(on)}$	—	2	—	ns	$I_D = 0.2 \text{ A}, V_{GS} = 10 \text{ V},$ $R_L = 150 \Omega$
Rise time	$t_r$	—	4	—	ns	
Turn-off delay time	$t_{d(off)}$	—	17	—	ns	
Fall time	$t_f$	—	15	—	ns	
Body to drain diode forward voltage	$V_{DF}$	—	0.9	—	V	$I_F = 0.3 \text{ A}, V_{GS} = 0$
Body to drain diode reverse recovery time	$t_{rr}$	—	80	—	ns	$I_F = 0.3 \text{ A}, V_{GS} = 0,$ $di_F/dt = 50 \text{ A}/\mu\text{s}$

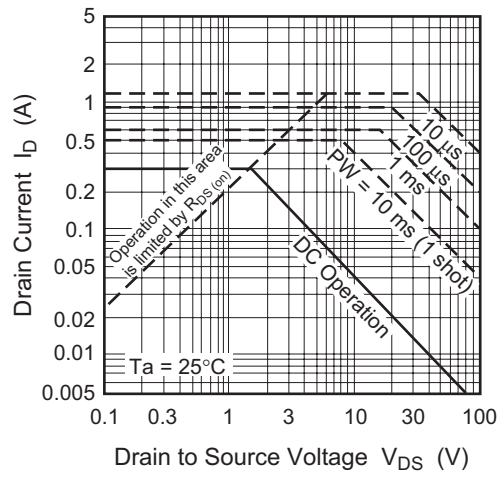
Note: 2. Pulse test

Main Characteristics

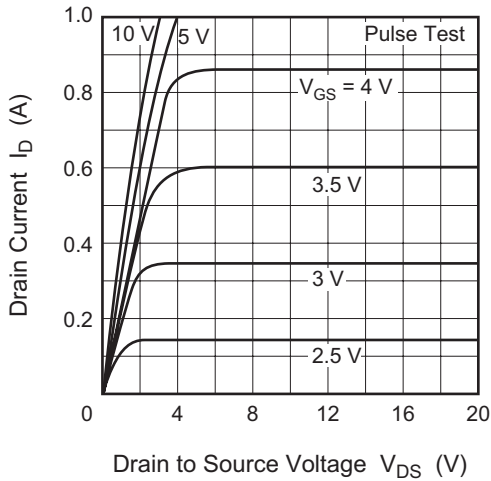
Power vs. Temperature Derating



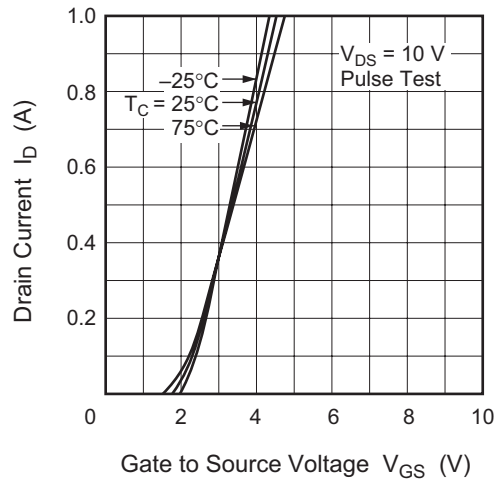
Maximum Safe Operation Area



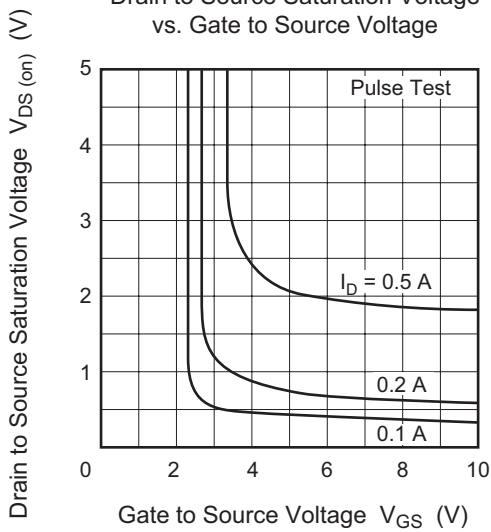
Typical Output Characteristics



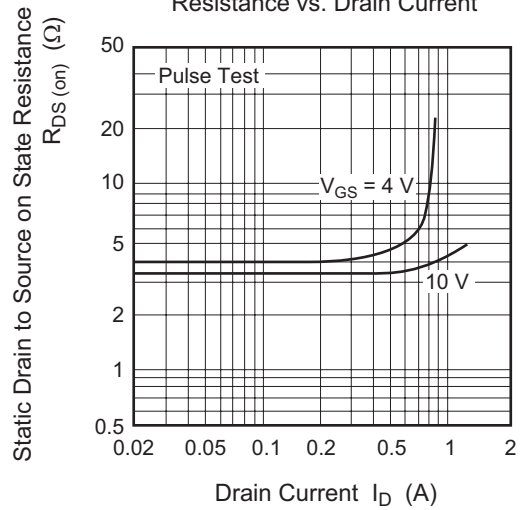
Typical Transfer Characteristics



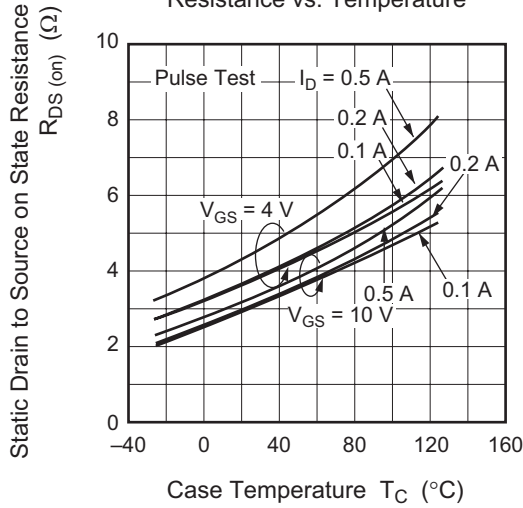
Drain to Source Saturation Voltage vs. Gate to Source Voltage



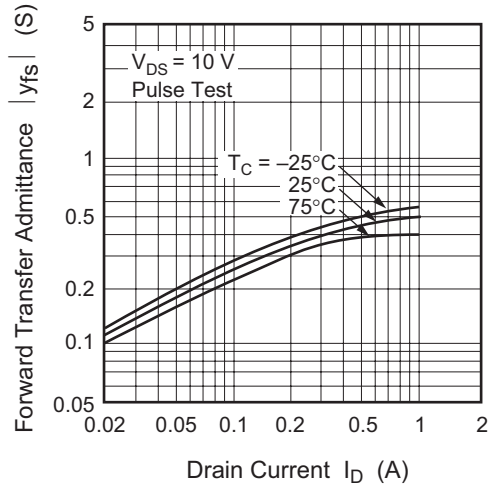
Static Drain to Source on State Resistance vs. Drain Current



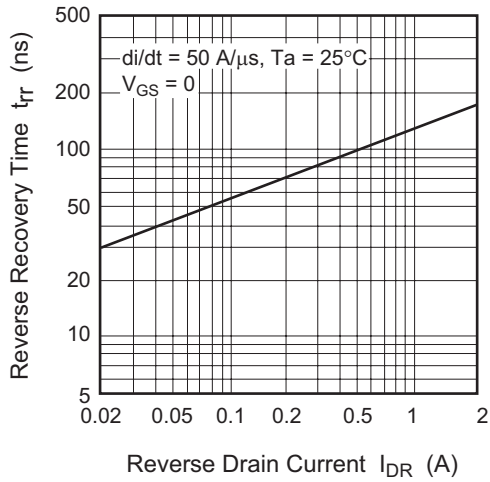
Static Drain to Source on State Resistance vs. Temperature



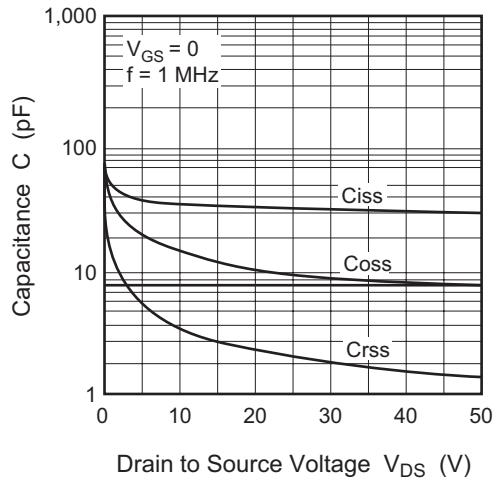
Forward Transfer Admittance vs. Drain Current



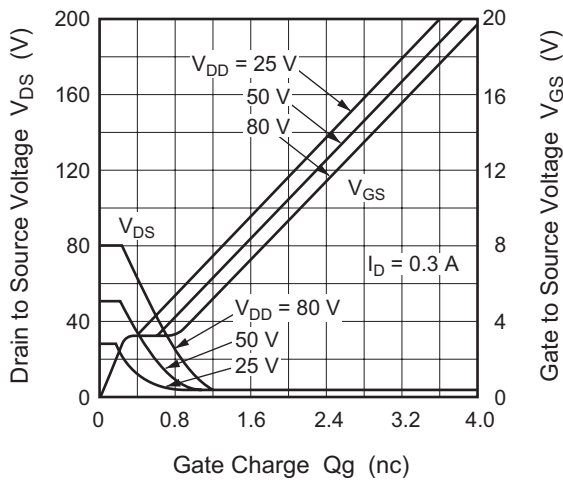
Body to Drain Diode Reverse Recovery Time



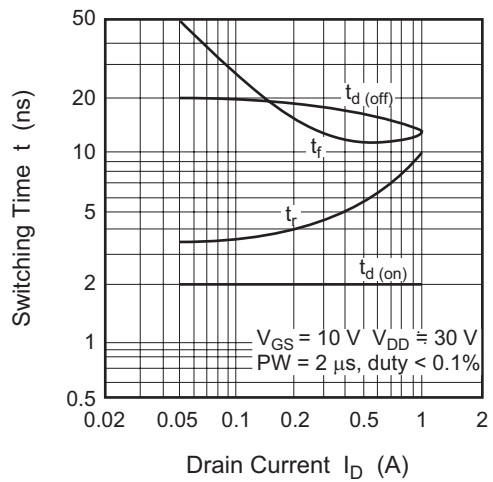
Typical Capacitance vs. Drain to Source Voltage

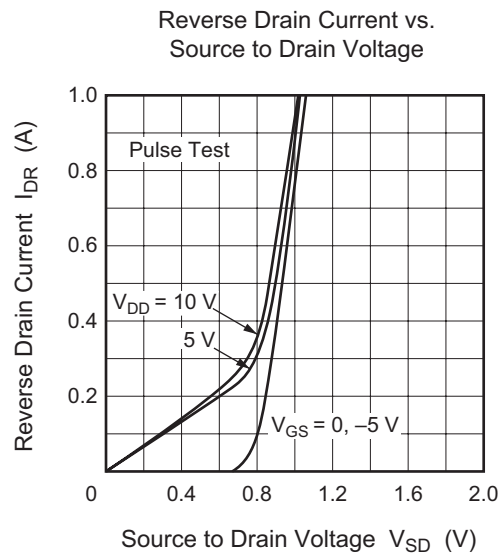


Dynamic Input Characteristics

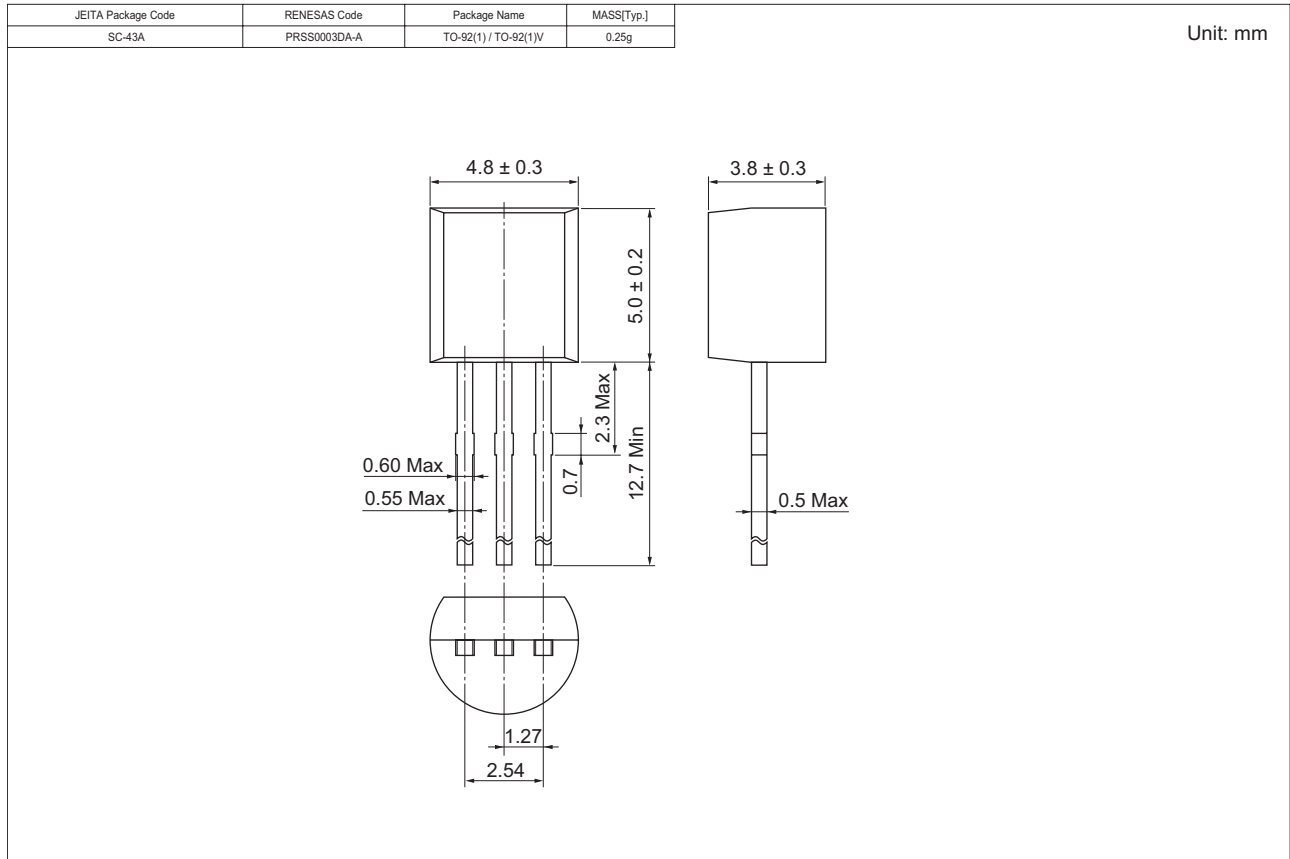


Switching Characteristics



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## Package Dimensions [查看2SK1337供应商](#)



## Ordering Information

Part Name	Quantity	Shipping Container
2SK1337TZ-E	2500 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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