

2SK1336

Silicon N Channel MOS FET

REJ03G0933-0200
(Previous: ADE-208-1273)
Rev.2.00
Sep 07, 2005

Application

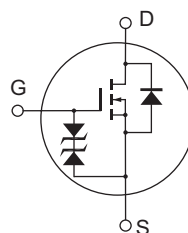
High speed power switching

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}	60	V
Gate to source voltage	V_{GSS}	± 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%

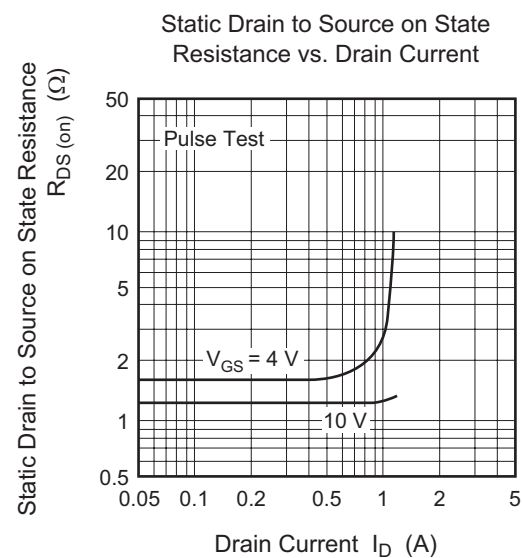
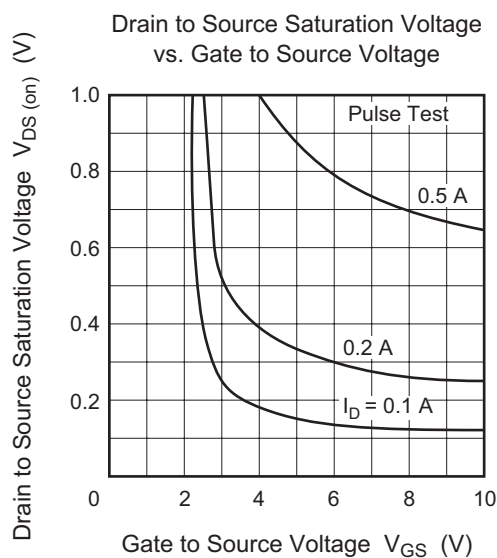
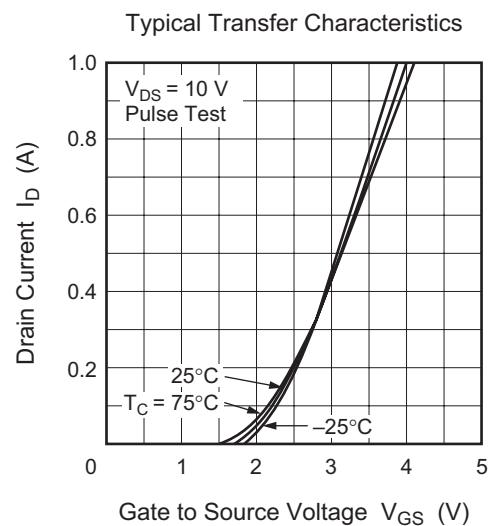
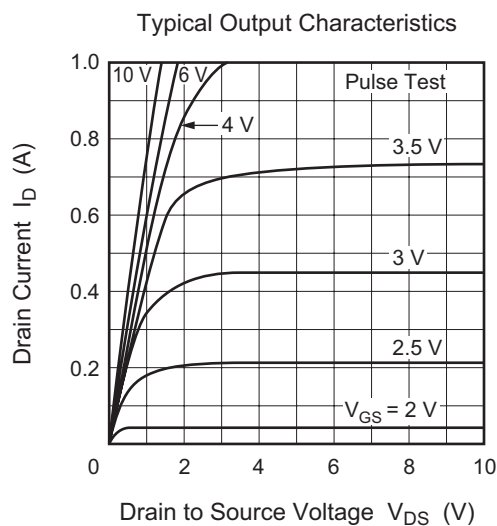
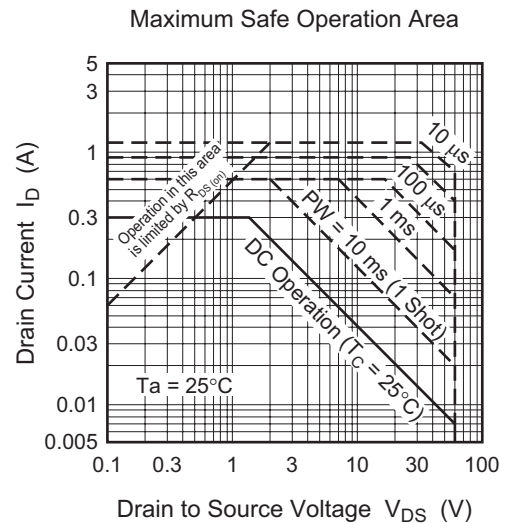
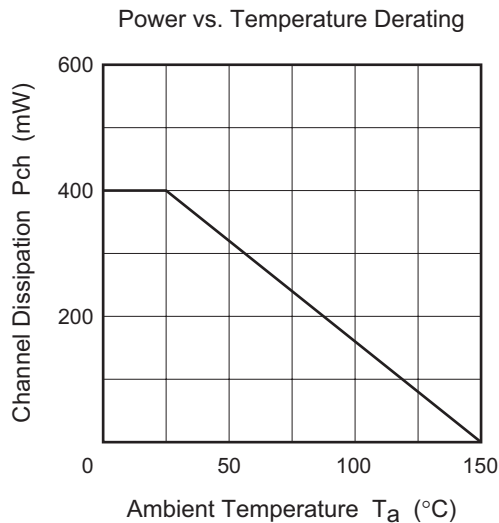
Electrical Characteristics

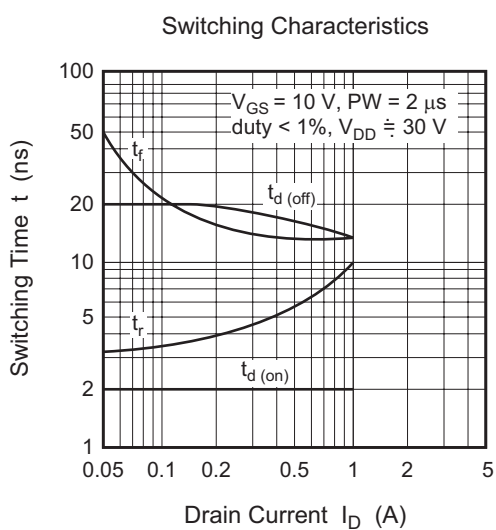
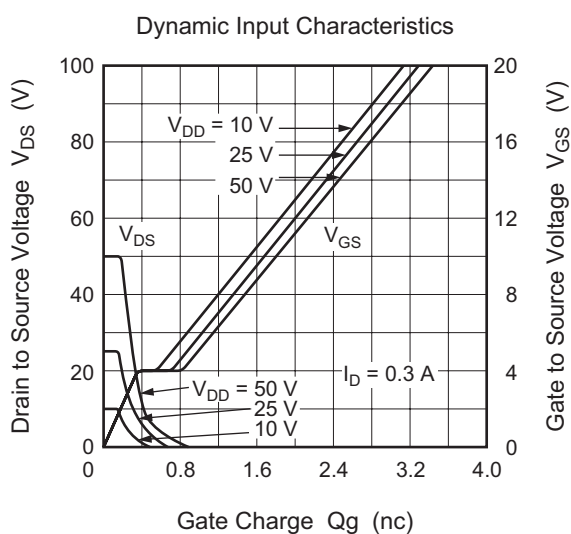
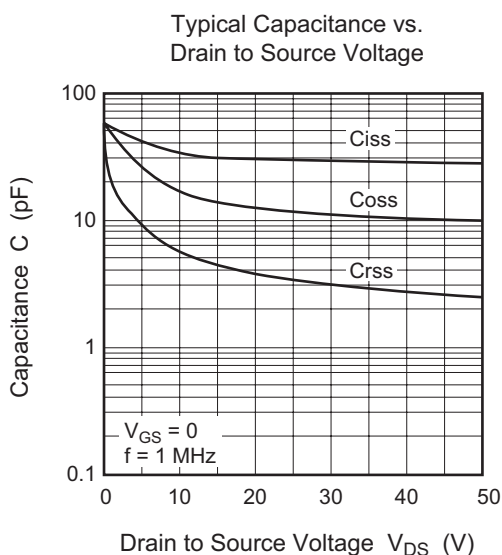
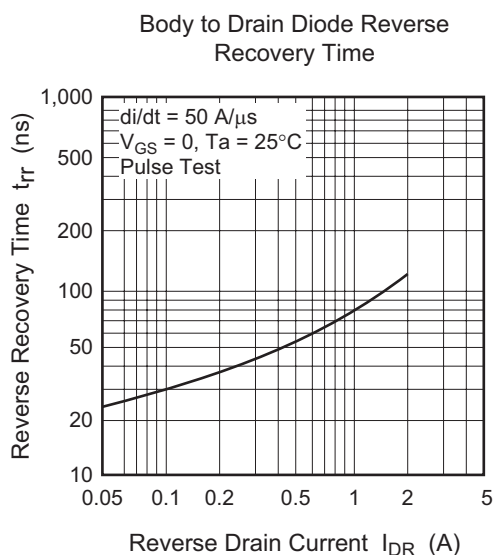
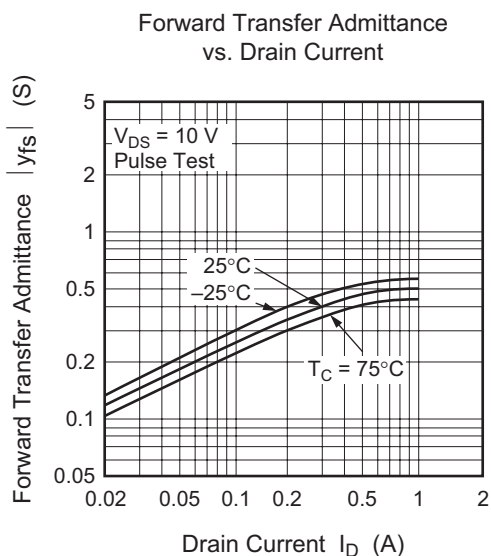
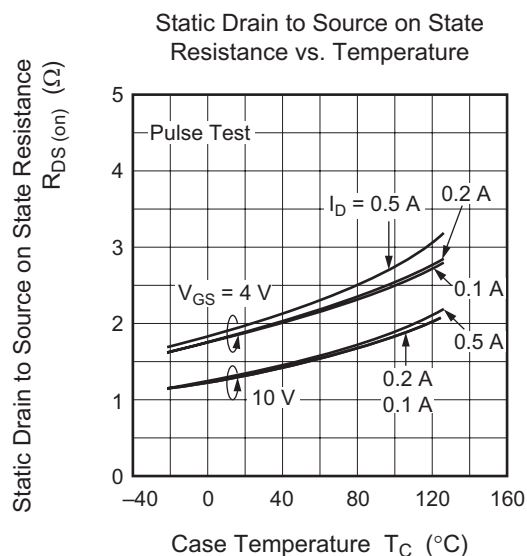
(Ta = 25°C)

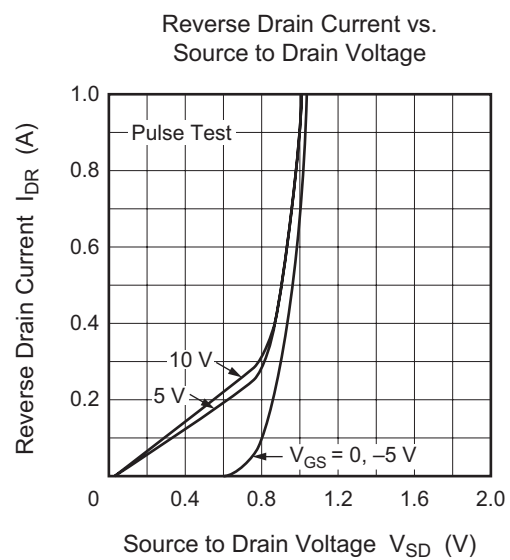
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	60	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 20	—	—	V	$I_G = \pm 100 \text{ }\mu\text{A}$, $V_{DS} = 0$
Gate to source leak current	I_{GSS}	—	—	± 10	μA	$V_{GS} = \pm 16 \text{ V}$, $V_{DS} = 0$
Zero gate voltage drain current	I_{DSS}	—	—	50	μA	$V_{DS} = 50 \text{ V}$, $V_{GS} = 0$
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	$R_{DS(on)}$	—	1.3	1.7	Ω	$I_D = 0.2 \text{ A}$, $V_{GS} = 10 \text{ V}^{*2}$
		—	1.8	2.5	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}	—	33	—	pF	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$
Output capacitance	C_{oss}	—	17	—	pF	
Reverse transfer capacitance	C_{rss}	—	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	$t_{d(off)}$	—	18	—	ns	
Fall time	t_f	—	16	—	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}	—	45	—	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



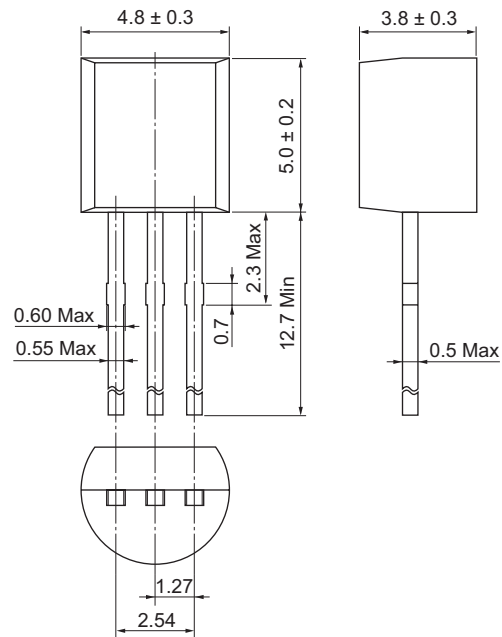




Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-43A	PRSS0003DA-A	TO-92(1) / TO-92(1)V	0.25g

Unit: mm



Ordering Information

Part Name	Quantity	Shipping Container
2SK1336TZ-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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