

2SK975

Silicon N Channel MOS FET

REJ03G0905-0200
(Previous: ADE-208-1243)
Rev.2.00
Sep 07, 2005

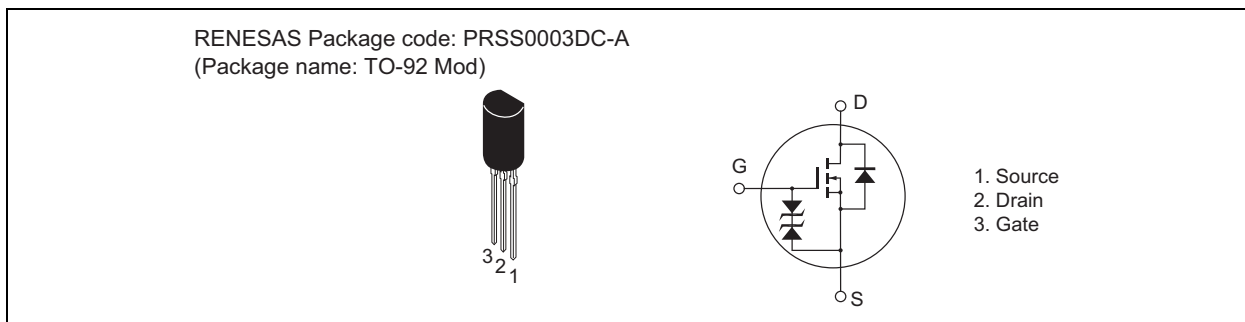
Application

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



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	1.5	A
Drain peak current	I _{D(pulse)} ^{*1}	4.5	A
Body to drain diode reverse drain current	I _{DR}	1.5	A
Channel dissipation	P _{ch}	900	mW
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. PW ≤ 10 μs, duty cycle ≤ 1%

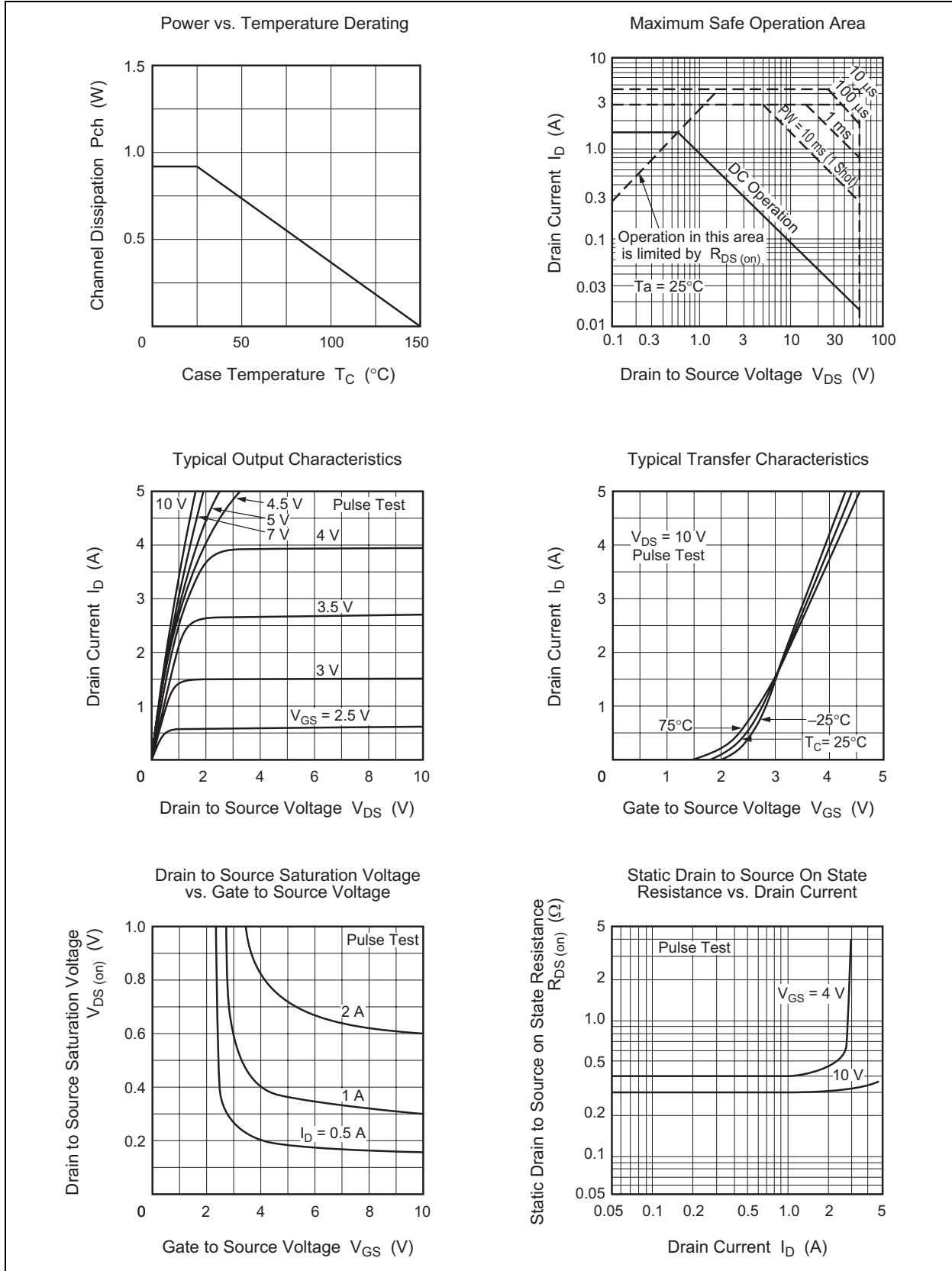
Electrical Characteristics

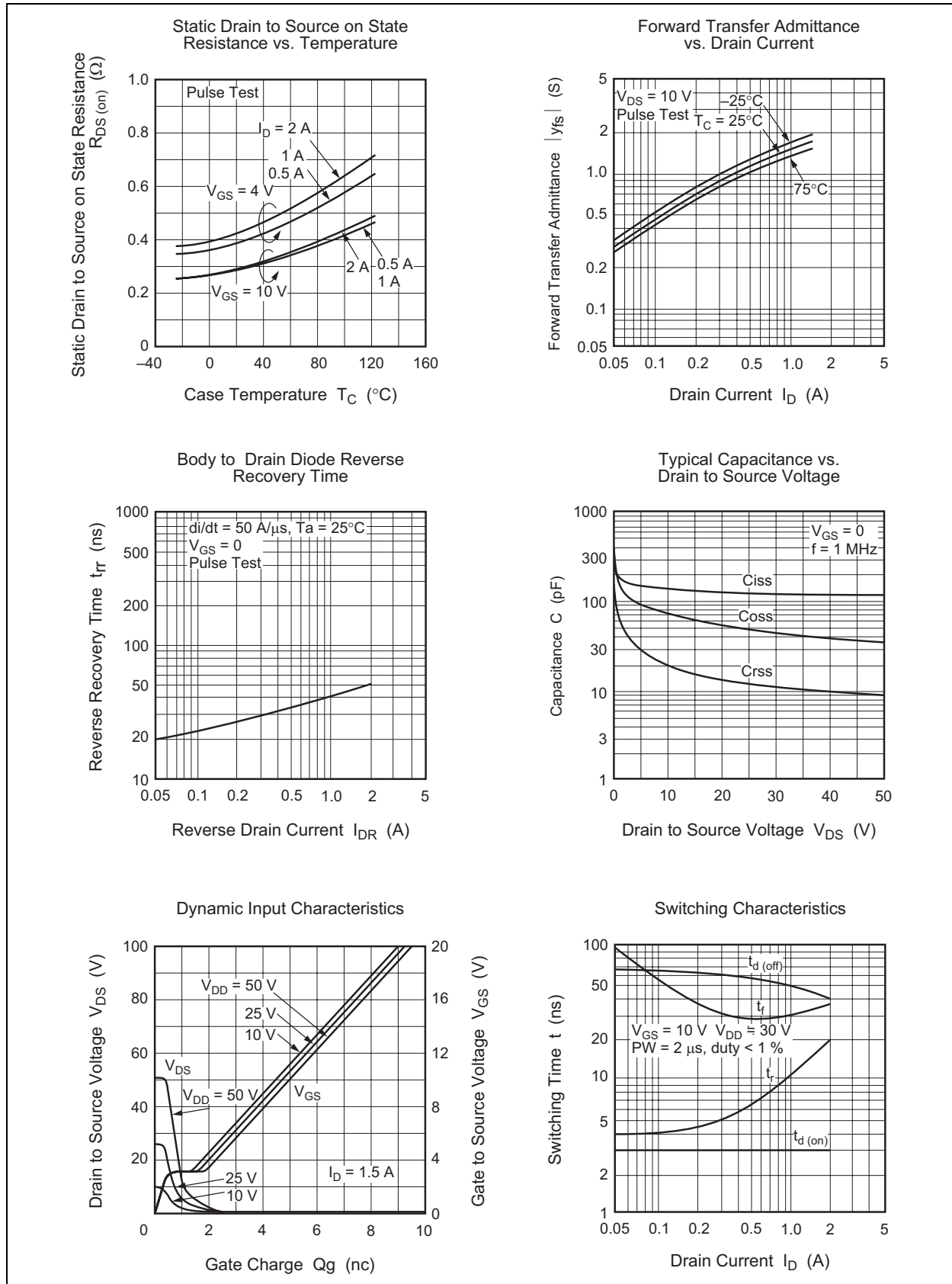
(Ta = 25°C)

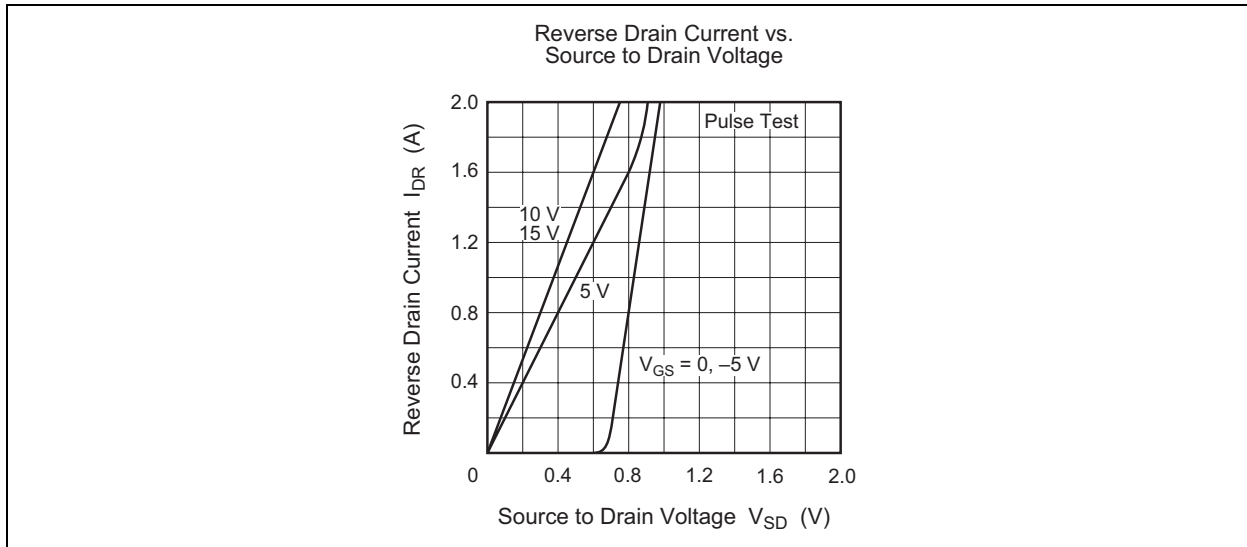
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	V _{(BR)DSS}	60	—	—	V	I _D = 10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR)GSS}	±20	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±16 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	100	μA	V _{DS} = 50 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS(off)}	1.0	—	2.0	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 = 1 A, V _{GS} = 10 V ^{*2}
			0.4	0.55	Ω	I _D = 1 A, V _{GS} = 4 V ^{*2}
Forward transfer admittance	y _{fs}	0.9	1.5	—	S	I _D = 1 A, V _{DS} = 10 V ^{*2}
Input capacitance	C _{iss}	—	140	—	pF	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz
Output capacitance	C _{oss}	—	70	—	pF	
Reverse transfer capacitance	C _{rss}	—	20	—	pF	
Turn-on delay time	t _{d(on)}	—	3	—	ns	I _D = 1 A, V _{GS} = 10 V, R _L = 30 Ω
Rise time	t _r	—	12	—	ns	
Turn-off delay time	t _{d(off)}	—	50	—	ns	
Fall time	t _f	—	30	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.9	—	V	I _F = 1.5 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	45	—	ns	I _F = 1.5 A, V _{GS} = 0, di _F /dt = 50 A/μs

Note: 2. Pulse test

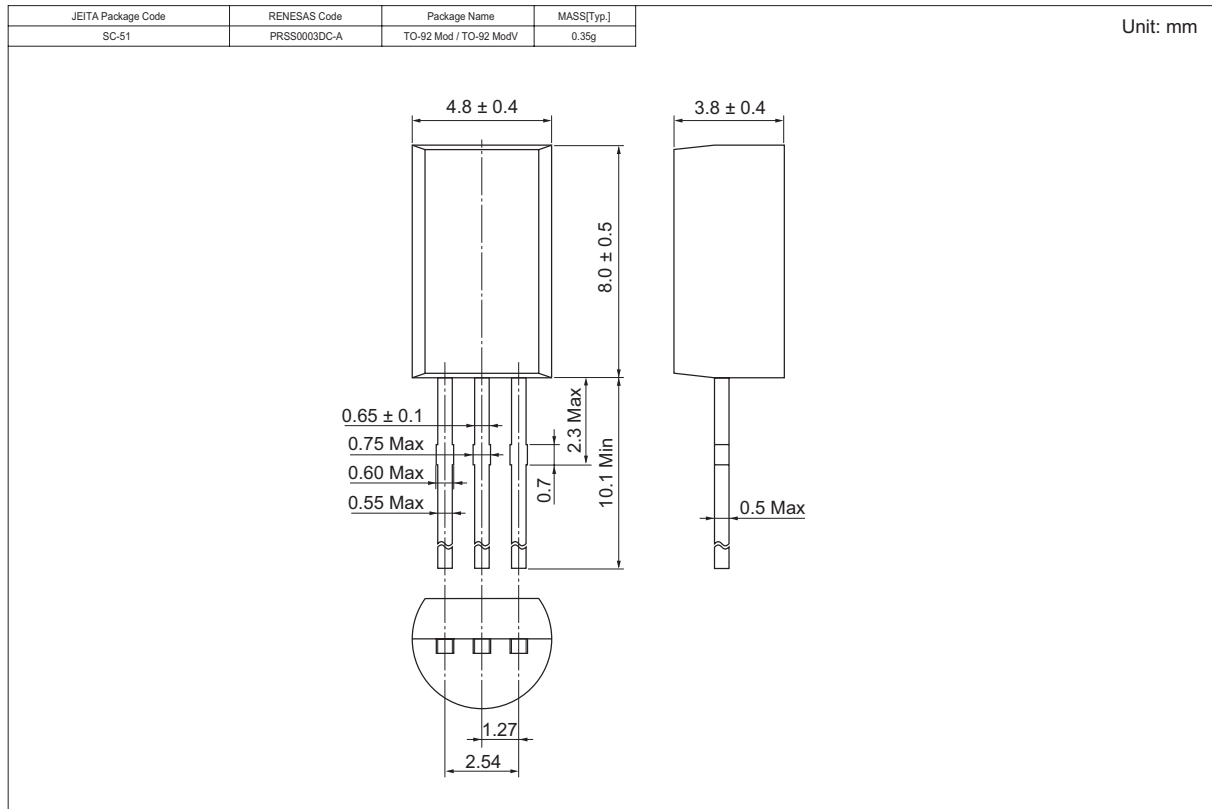
Main Characteristics







Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SK975TZ-E	2500 pcs	Hold Box, Radial 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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