2SK1579

Silicon N Channel MOS FET

REJ03G0956-0200
(Previous: ADE-208-1296)
Rev.2.00
Sep 07, 2005

Application

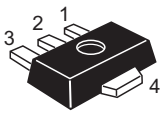
High speed power switching

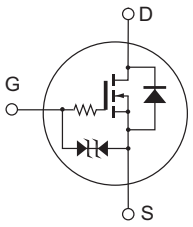
Features

- Low on-resistance
- High speed switching
- Suitable for low voltage operation

Outline

RENESAS Package code: PLZZ0004CA-A
(Package name: UPAK®)





1. Gate
2. Drain
3. Source
4. Drain

Note: Marking is “DY”.

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	12	V
Gate to source voltage	V_{GSS}	±7	V
Drain current	I_D	2	A
Drain peak current	$I_{D(pulse)}$ [*1]	4	A
Body to drain diode reverse drain current	I_{DR}	2	A
Channel power dissipation	Pch [*2]	1	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. PW ≤ 100 µs, duty cycle ≤ 10%
2. Value on the alumina ceramic board (12.5 × 20 × 0.7 mm)

Electrical Characteristics

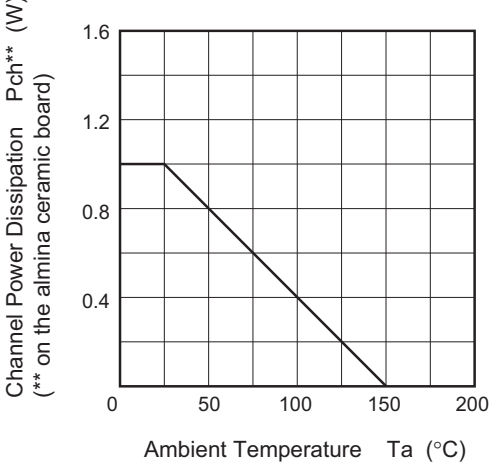
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source cutoff current	I_{DSS}	—	—	1	µA	V_{DS} = 8 V, V_{GS} = 0
Gate to source cutoff current	I_{GSS}	—	—	±5	µA	V_{GS} = ±6.5 V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	0.4	—	1.4	V	V_{DS} = 5 V, I_D = 100 µA
Drain to source on resistance (1)	$R_{DS(on)}1$	—	0.36	0.7	Ω	V_{GS} = 2.2 V, I_D = 0.5 A [*3]
Drain to source on resistance (2)	$R_{DS(on)}2$	—	0.25	0.35	Ω	V_{GS} = 4 V, I_D = 1 A [*3]
DC forward transfer admittance	$\|y_{fs}\|$	1	2.5	—	S	V_{DS} = 5 V, I_D = 1 A, ΔV_{GS} = 0.1 V [*3]
Input capacitance	Ciss	—	110	—	pF	V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz
Reverse transfer capacitance	Crss	—	30	—	pF	
Output capacitance	Coss	—	150	—	pF	
Turn-on time	$t_{(on)}$	—	500	—	ns	I_D = 0.2 A, V_{GS} = 0, Vin = 4 V, R_L = 51 Ω [*3]
Turn-off time	$t_{(off)}$	—	1500	—	ns	

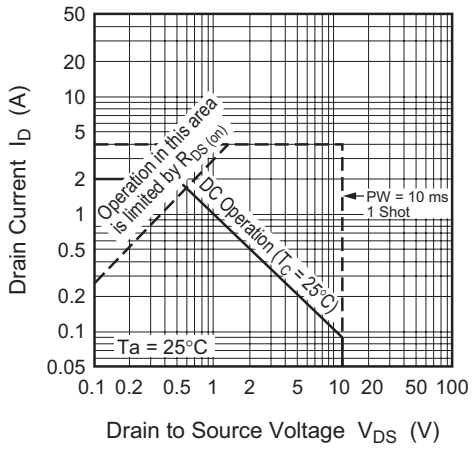
Note: 3. Pulse Test

Main Characteristics

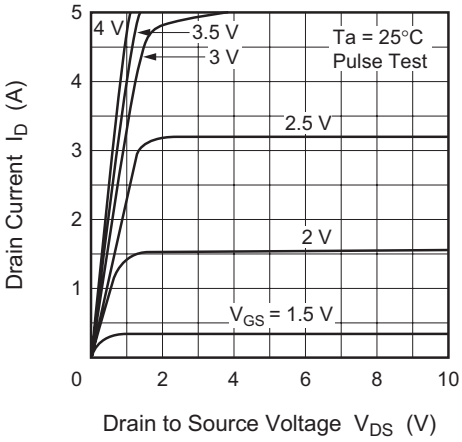
Maximum Channel Power Dissipation Curve



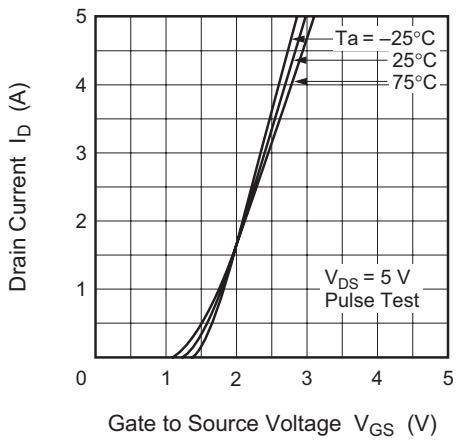
Maximum Safe Operation Area



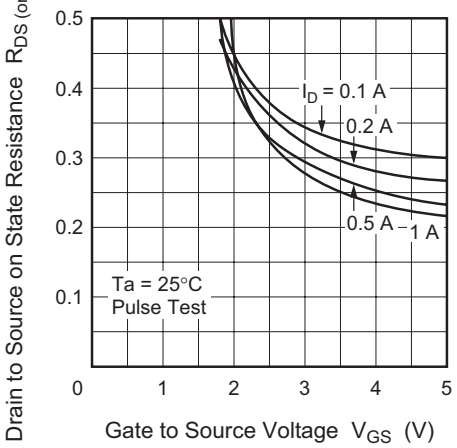
Typical Output Characteristics



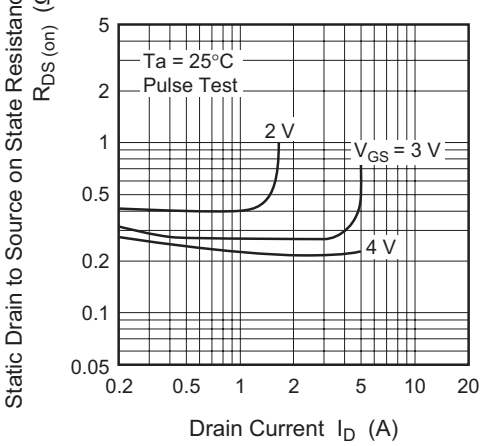
Typical Transfer Characteristics



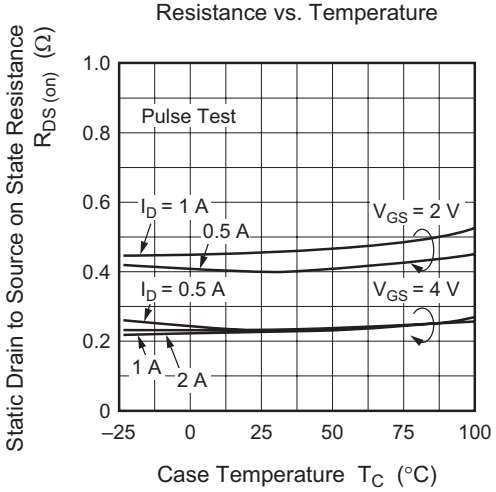
Drain to Source on State Resistance vs. Gate to Source Voltage



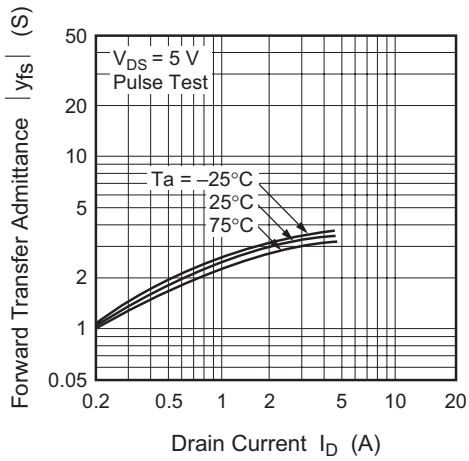
Static Drain to Source on State Resistance vs. Drain Current



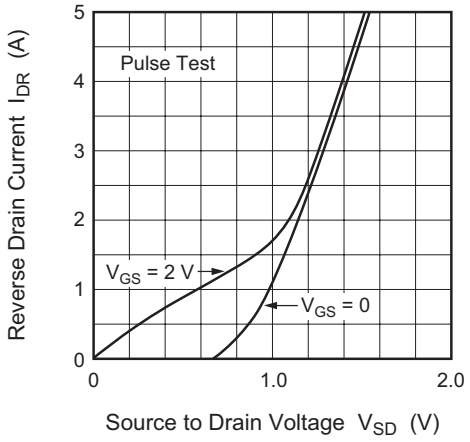
Static Drain to Source on State Resistance vs. Temperature



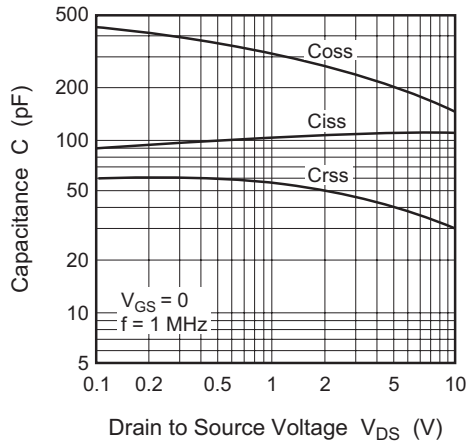
Forward Transfer Admittance vs. Drain Current



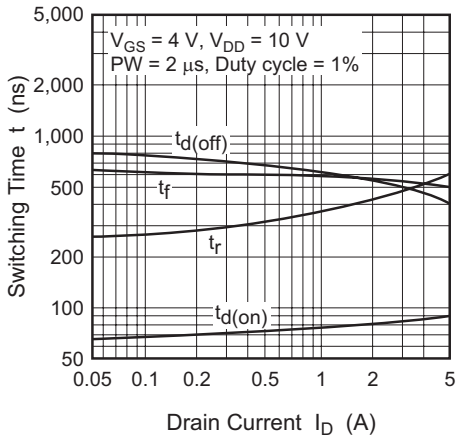
Reverse Drain Current vs. Source to Drain Voltage



Typical Capacitance vs. Drain to Source Voltage



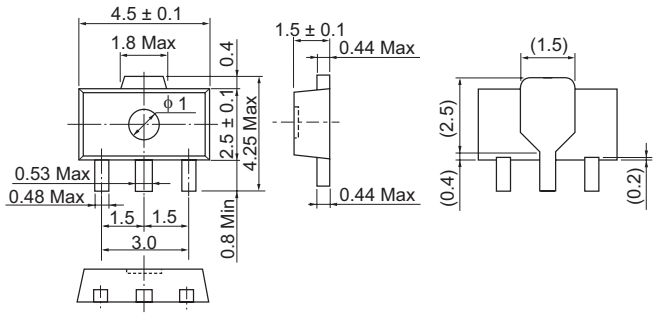
Switching Characteristics



Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-62	PLZZ0004CA-A	UPAK / UPAKV	0.050g

Unit: mm



Ordering Information

Part Name	Quantity	Shipping Container
2SK1579DY	3000 pcs	Taping, ϕ178 mm Reel

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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RENESAS SALES OFFICES

http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

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