

2SK1579

Silicon N Channel MOS FET

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

Application

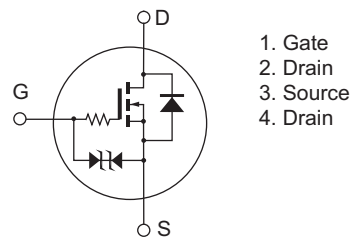
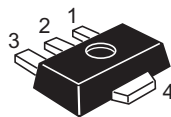
High speed power switching

Features

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

Outline

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



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	P_{ch}^{*2}	1	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. $PW \leq 100 \mu s$, duty cycle $\leq 10\%$ 2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7 \text{ mm}$)

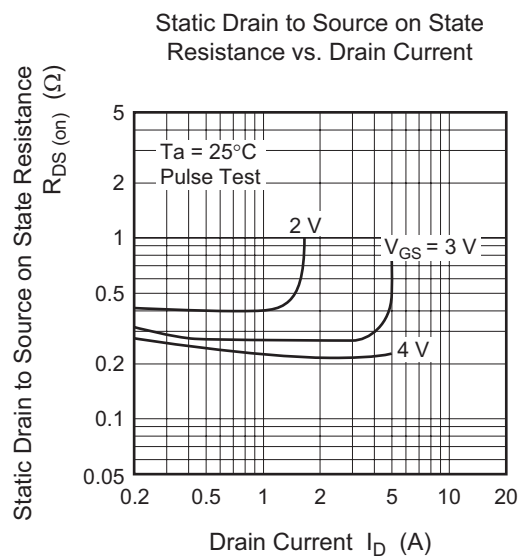
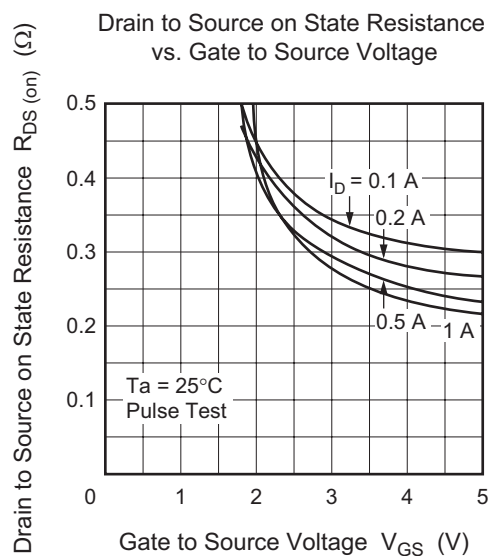
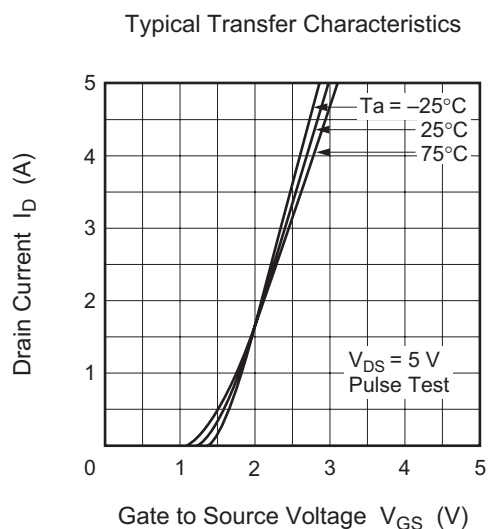
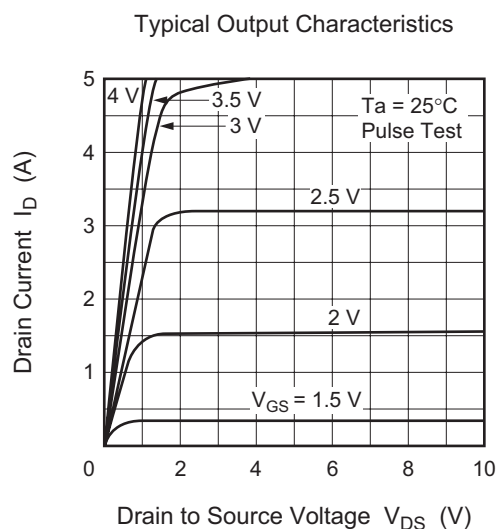
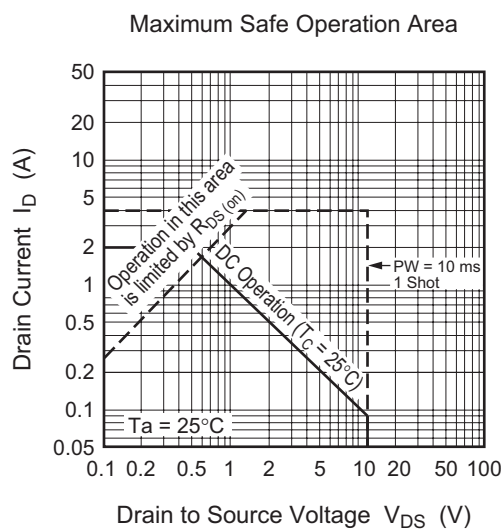
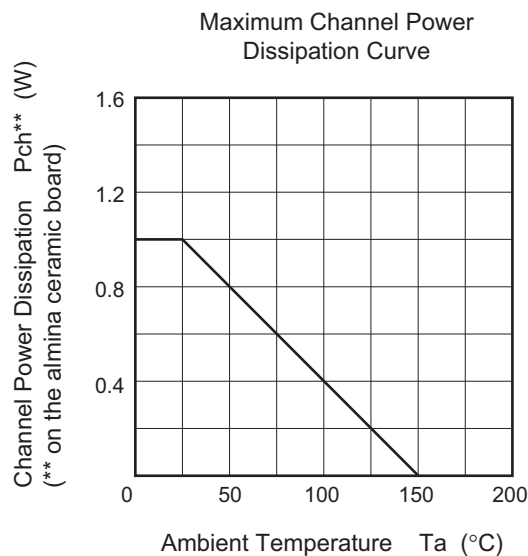
Electrical Characteristics

(Ta = 25°C)

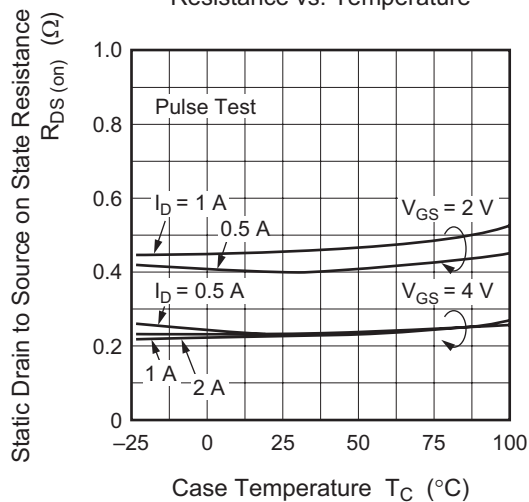
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source cutoff current	I_{DSS}	—	—	1	μA	$V_{DS} = 8 \text{ V}$, $V_{GS} = 0$
Gate to source cutoff current	I_{GSS}	—	—	± 5	μA	$V_{GS} = \pm 6.5 \text{ V}$, $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.4	—	1.4	V	$V_{DS} = 5 \text{ V}$,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

Note: 3. Pulse Test

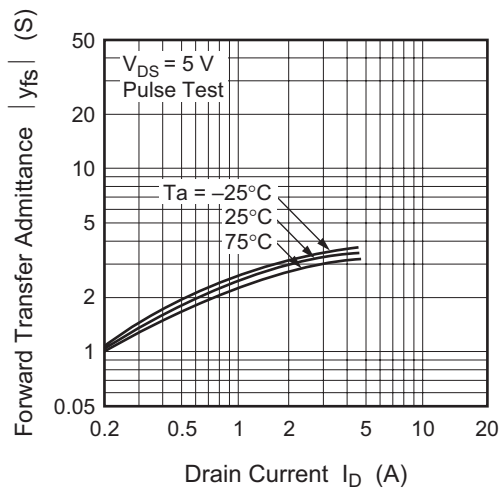
Main Characteristics



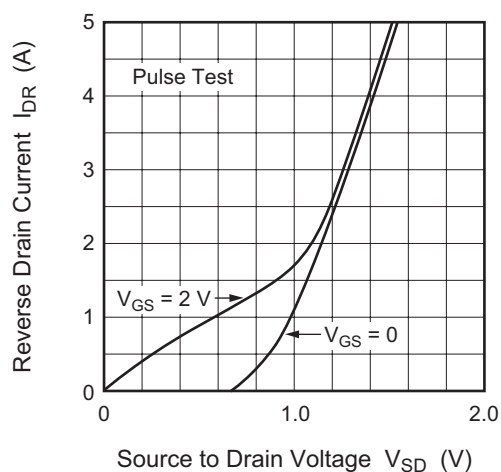
Static Drain to Source on State Resistance vs. Temperature



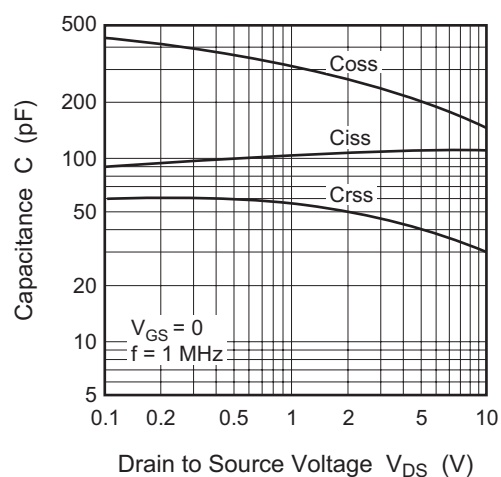
Forward Transfer Admittance vs. Drain Current



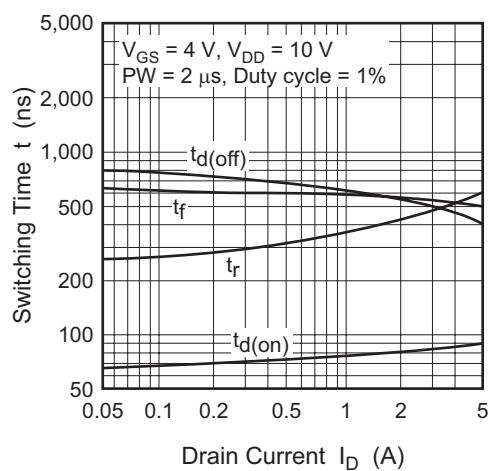
Reverse Drain Current vs. Source to Drain Voltage



Typical Capacitance vs. Drain to Source Voltage



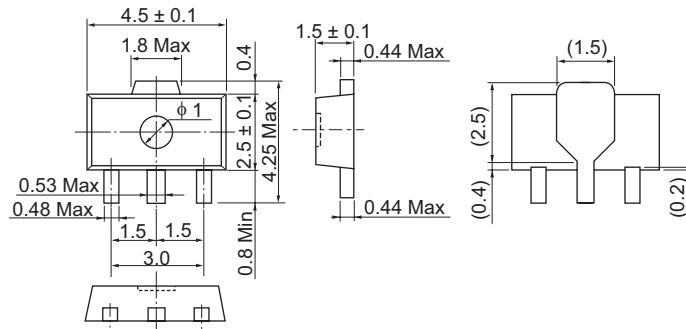
Switching Characteristics



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, $\phi 178$ 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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