

2SJ186

Silicon P Channel MOS FET

REJ03G0849-0200
(Previous: ADE-208-1184)
Rev.2.00
Sep 07, 2005

Description

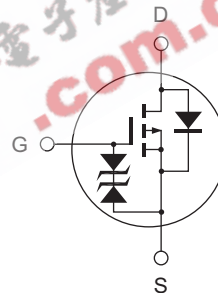
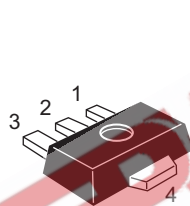
High speed power switching

Features

- Low on-resistance
- High speed switching
- Low drive current
- Suitable for motor drive, DC-DC converter, power switch and solenoid drive

Outline

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



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

Note: Marking is "CY".

*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	-200	V
Gate to source voltage	V _{GSS}	±15	V
Drain current	I _D	-0.5	A
Drain peak current	I _{D (pulse)} ^{Note 1}	-1.0	A
Body to drain diode reverse drain current	I _{DR}	-0.5	A
Channel dissipation	P _{ch} ^{Note 2}	1	W
Channel temperature	T _{ch}	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Notes: 1. PW ≤ 10 μs, duty cycle ≤ 1%

2. When using the alumina ceramic board (12.5 × 20 × 0.7 mm)

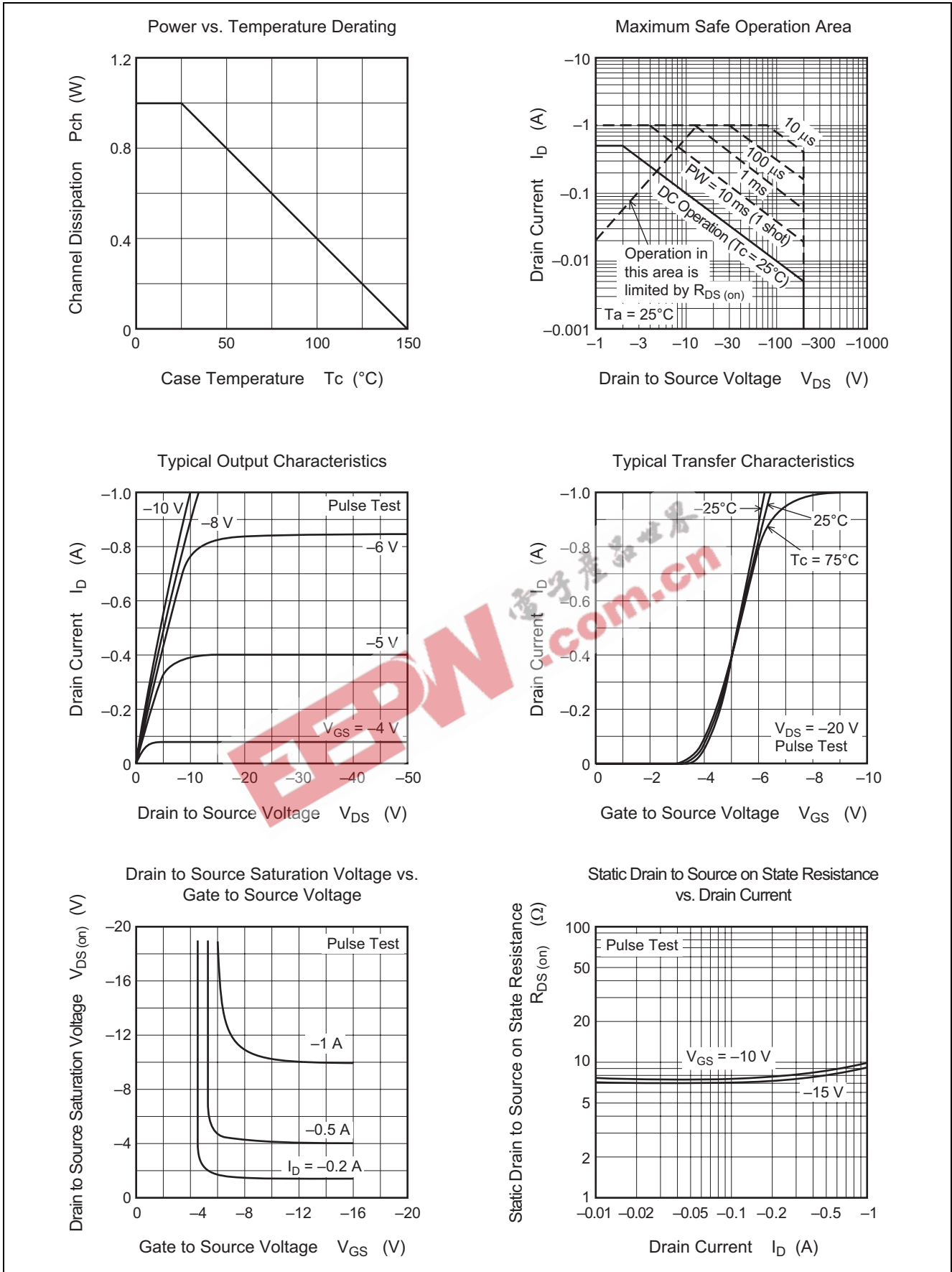
Electrical Characteristics

(Ta = 25°C)

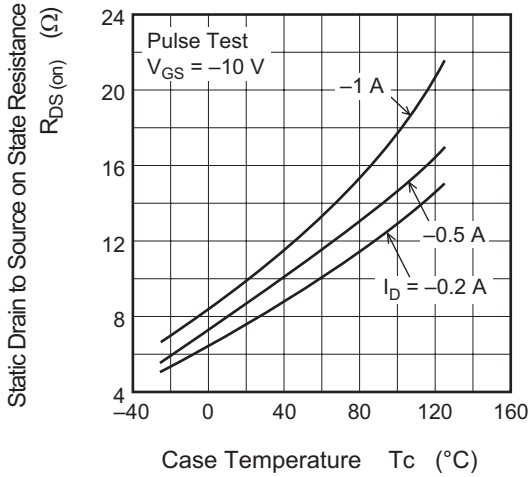
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	-200	—	—	V	I _D = -10 mA, V _{GS} = 0
Gate to source breakdown voltage	V _{(BR) GSS}	±15	—	—	V	I _G = ±100 μA, V _{DS} = 0
Gate to source leak current	I _{GSS}	—	—	±10	μA	V _{GS} = ±12 V, V _{DS} = 0
Zero gate voltage drain current	I _{DSS}	—	—	-50	μA	V _{DS} = -160 V, V _{GS} = 0
Gate to source cutoff voltage	V _{GS (off)}	-2.0	—	-4.0	V	I _D = -1 mA, V _{DS} = -10 V
Static drain to source on state resistance	R _{DS (on)}	—	8.0	12.0	Ω	I _D = -0.25 A, V _{GS} = -10 V ^{Note 3}
	R _{DS (on)}	—	10.0	15.0	Ω	I _D = -1 A, V _{GS} = -10 V ^{Note 3}
Forward transfer admittance	y _{fs}	0.18	0.3	—	S	I _D = -0.25 A, V _{DS} = -10 V ^{Note 3}
Input capacitance	C _{iSS}	—	75	—	pF	V _{DS} = -10 V
Output capacitance	C _{oSS}	—	32	—	pF	V _{GS} = 0
Reverse transfer capacitance	C _{rSS}	—	5	—	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	—	6	—	ns	I _D = -0.25 A
Rise time	t _r	—	6	—	ns	V _{GS} = -10 V
Turn-off delay time	t _{d (off)}	—	17	—	ns	R _L = 120 Ω
Fall time	t _f	—	15	—	ns	
Body to drain diode forward voltage	V _{DF}	—	0.95	—	V	I _F = -0.5 A, V _{GS} = 0
Body to drain diode reverse recovery time	t _{rr}	—	100	—	ns	I _F = -0.5 A, V _{GS} = 0 di _F /dt = 50 A/μs

Note: 3. Pulse test

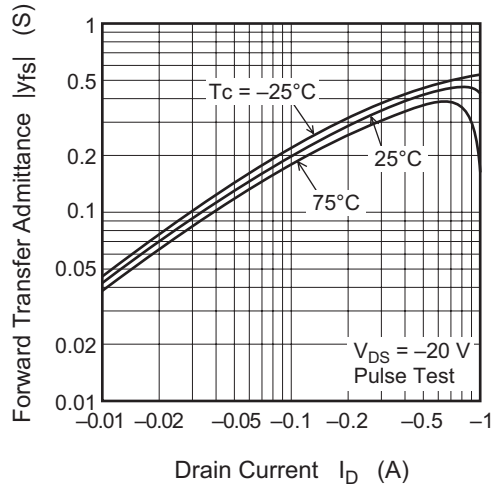
Main Characteristics



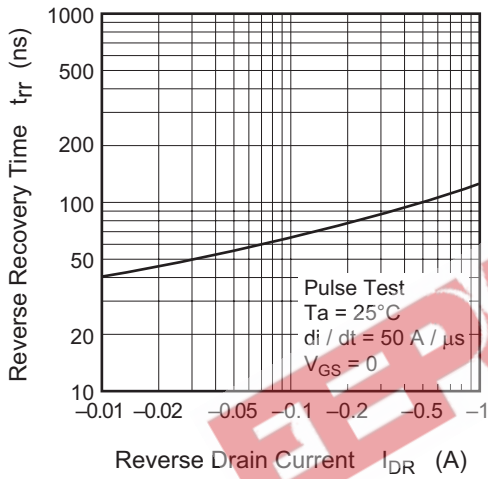
Static Drain to Source on State Resistance vs. Temperature



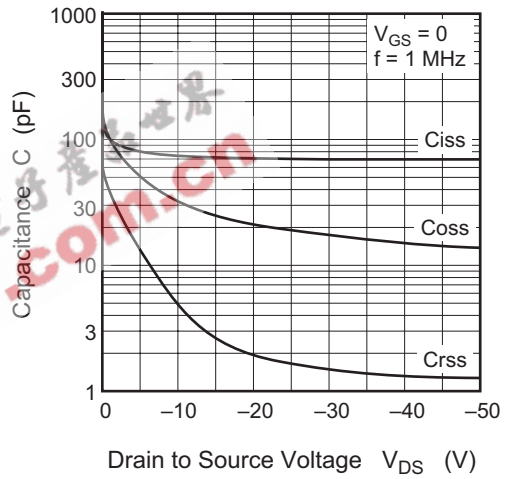
Forward Transfer Admittance vs. Drain Current



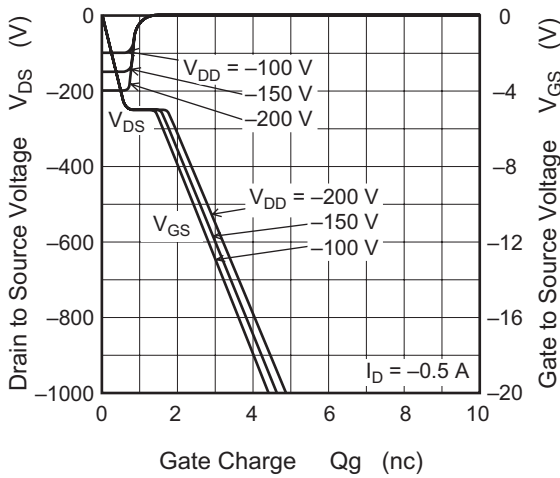
Body-Drain Diode Reverse Recovery Time



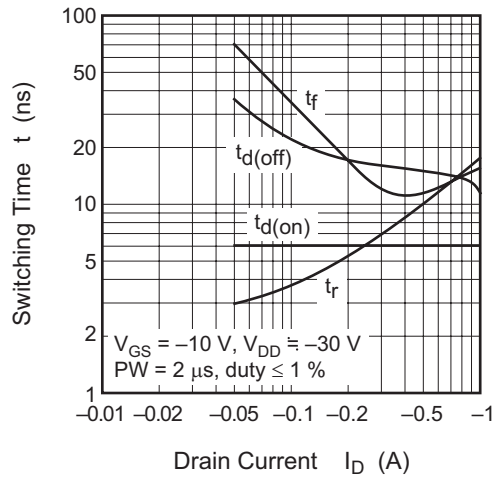
Capacitance vs. Drain to Source Voltage

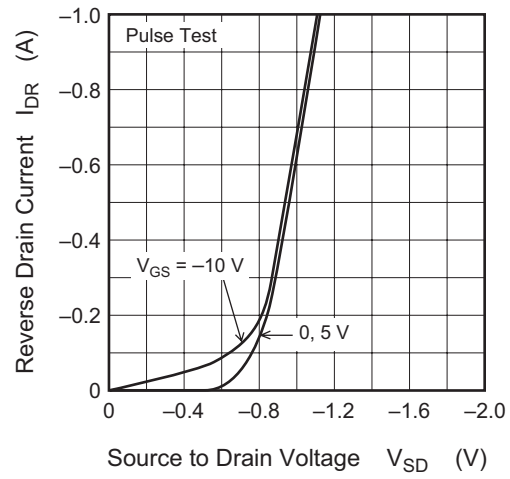


Dynamic Input Characteristics



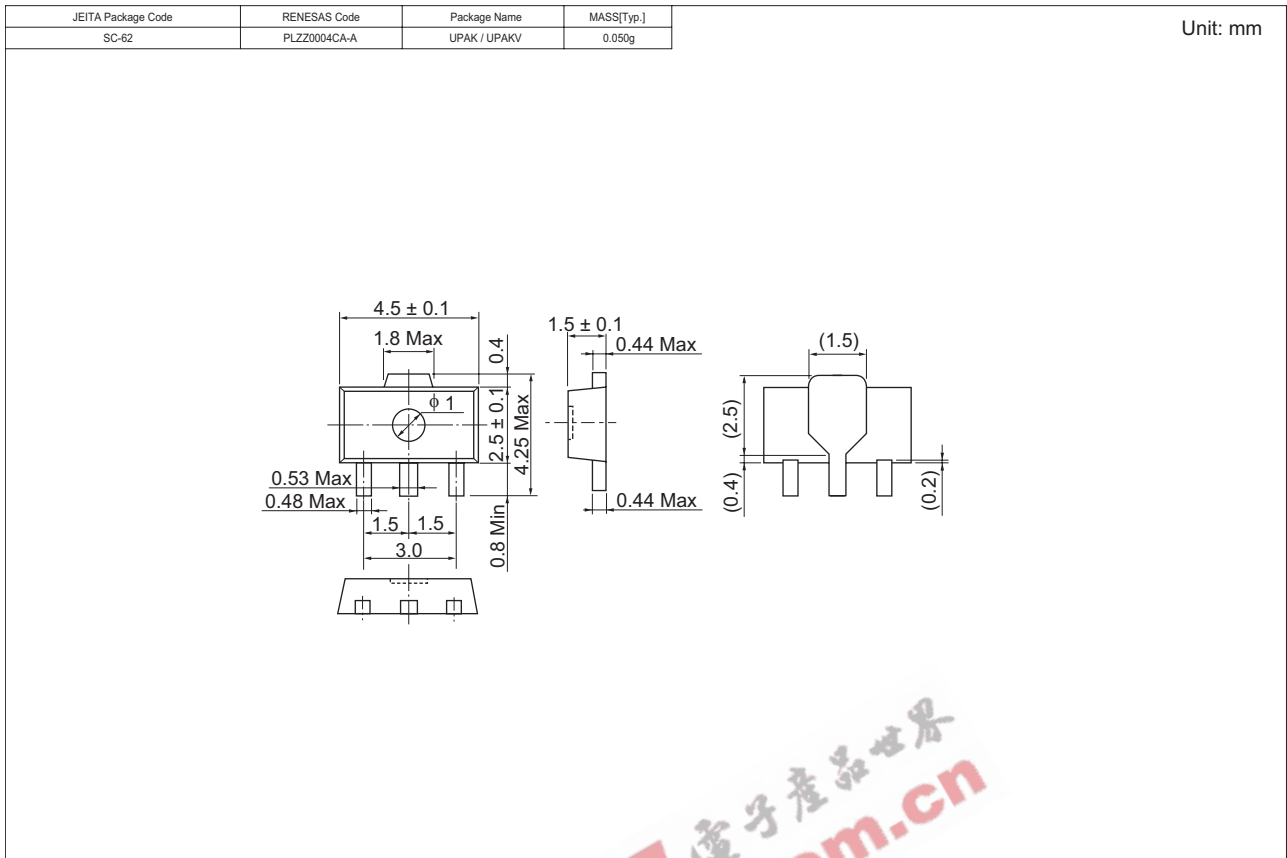
Switching Characteristics



Reverse Drain Current vs.
Source to Drain Voltage

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Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SJ186CYEL-E	1000 pcs	φ178 mm Reel, 12 mm Emboss 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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