

2SJ278

Silicon P Channel MOS FET

REJ03G0856-0200

(Previous: ADE-208-1190)

Rev.2.00 Sep 07, 2005

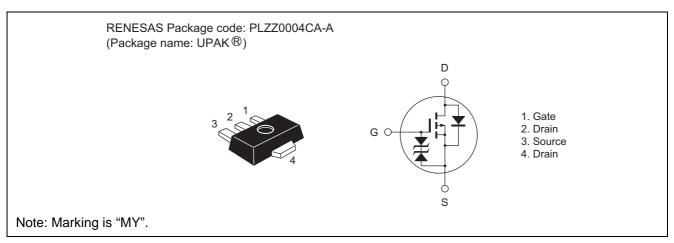
Description

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 switching regulator, DC-DC converter

Outline



*UPAK is a trademark of Renesas Technology Corp.

Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Value	Unit
Drain to source voltage	V _{DSS}	-60	V
Gate to source voltage	V_{GSS}	±20	V
Drain current	I _D	-1	A
Drain peak current	I _{D (pulse)} Note 1	-4	A
Body to drain diode reverse drain current	I _{DR}	-1	A
Channel dissipation	Pch Note 2	1	W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

Notes: 1. PW \leq 10 μ s, duty cycle \leq 1%

2. Value on the alumina ceramic board (12.5 \times 20 \times 0.7 mm)

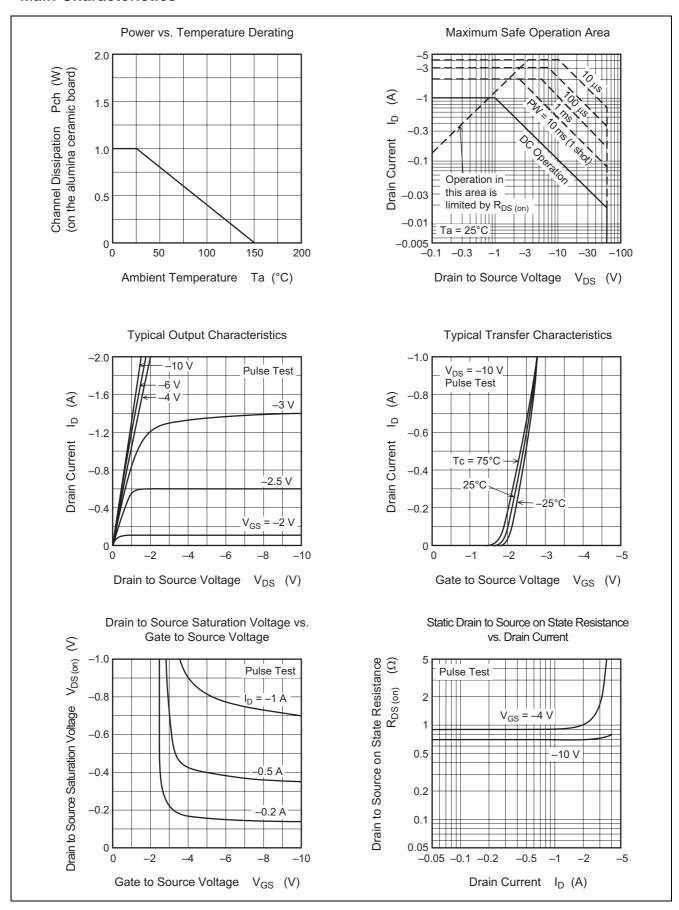
Electrical Characteristics

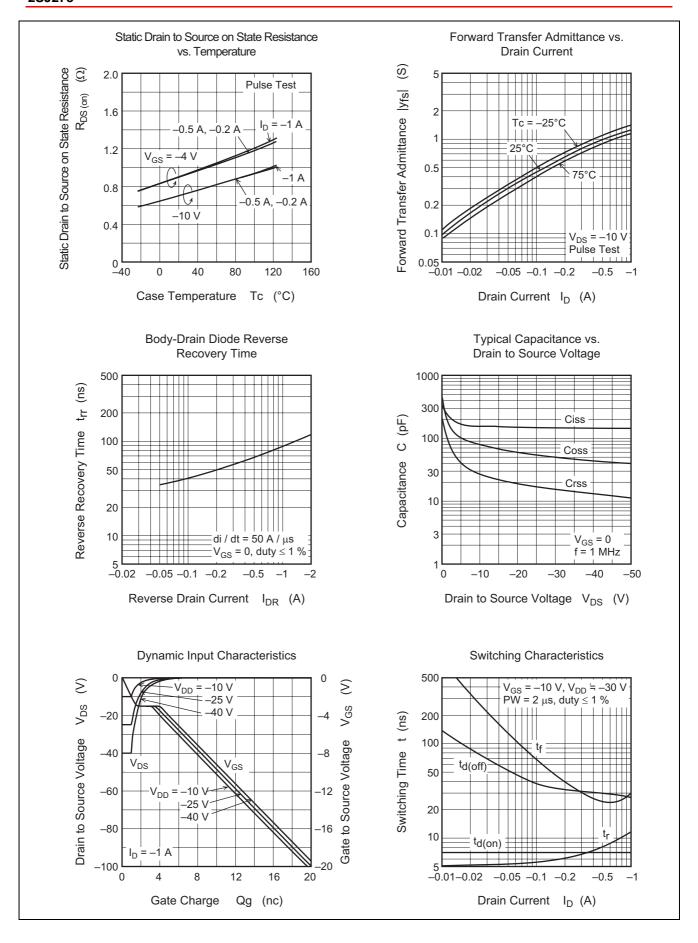
 $(Ta = 25^{\circ}C)$

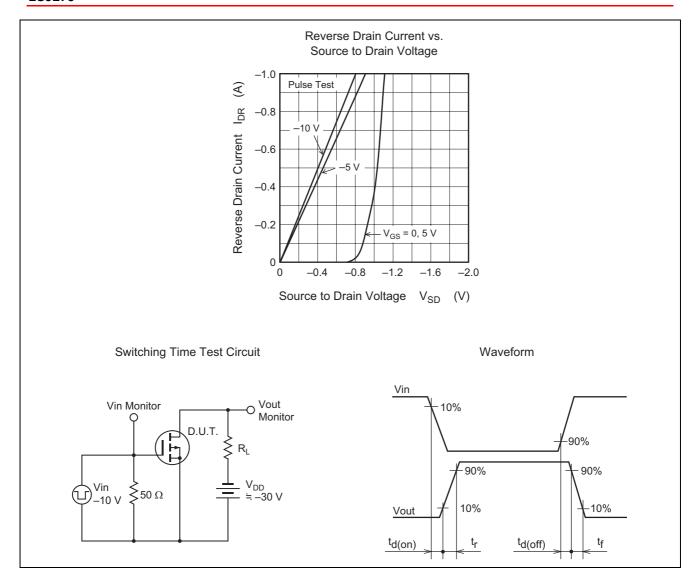
Item	Symbol	Min	Тур	Max	Unit	Test Conditions
Drain to source breakdown voltage	V _{(BR) DSS}	-60	_	_	V	$I_D = -10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	V _{(BR) GSS}	±20	_	_	V	$I_G = \pm 100 \ \mu A, \ V_{DS} = 0$
Gate to source leak current	I _{GSS}	_	_	±5	μΑ	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	I _{DSS}	_	_	-10	μΑ	$V_{DS} = -50 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	V _{GS (off)}	-1.0	_	-2.25	V	$I_D = -1 \text{ mA}, V_{DS} = -10 \text{ V}$
Static drain to source on state resistance	R _{DS (on)}	_	0.7	0.83	Ω	$I_D = -0.5 \text{ A}, V_{GS} = -10 \text{ V}^{\text{Note 3}}$
	R _{DS (on)}	_	0.9	1.2	Ω	$I_D = -0.5 \text{ A}, V_{GS} = -4 \text{ V}^{\text{Note 3}}$
Forward transfer admittance	y _{fs}	0.6	1.0	_	S	$I_D = -0.5 \text{ A}, V_{DS} = -10 \text{ V}^{\text{Note 3}}$
Input capacitance	Ciss	_	160	_	pF	$V_{DS} = -10 \text{ V}$
Output capacitance	Coss	_	80	_	pF	$V_{GS} = 0$
Reverse transfer capacitance	Crss	_	28	_	pF	f = 1 MHz
Turn-on delay time	t _{d (on)}	_	7	_	ns	$I_D = -0.5 \text{ A}$
Rise time	t _r	_	8	_	ns	V _{GS} = -10 V
Turn-off delay time	t _{d (off)}	_	30	_	ns	$R_L = 60 \Omega$
Fall time	t _f	_	25	_	ns	
Body to drain diode forward voltage	V_{DF}	_	-1.1	_	V	$I_F = -1 A, V_{GS} = 0$
Body to drain diode reverse recovery time	t _{rr}	_	90	_	ns	$I_F = -1 A, V_{GS} = 0$
						$di_F/dt = 50 A/\mu s$

Note: 3. Pulse test

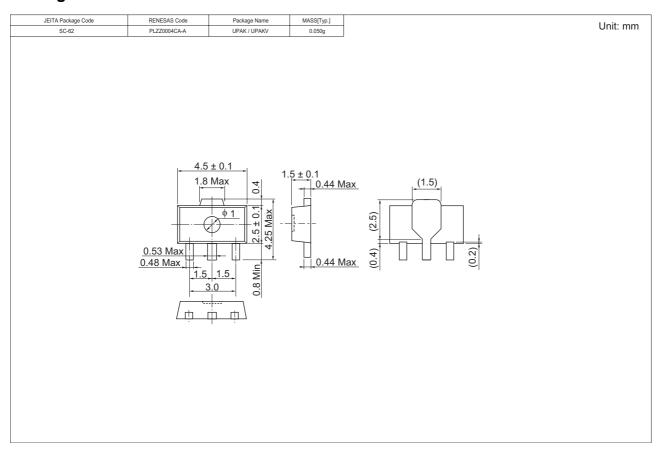
Main Characteristics







Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SJ278MYTL-E	1000 pcs	Taping
2SJ278MYTR-E	1000 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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