To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RJK3008DPK

Silicon N Channel MOS FET
High Speed Power Switching

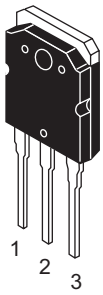
REJ03G1587-0100
Rev.1.00
Sep 27, 2007

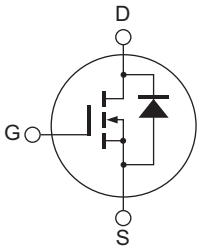
Features

- Low on-resistance
- Low leakage current
- High speed switching

Outline

RENESAS Package code: PRSS0004ZE-A
(Package name:TO-3P)





1. Gate
2. Drain (Flange)
3. Source

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V_{DSS}	300	V
Gate to source voltage	V_{GSS}	±30	V
Drain current	I_D	40	A
Drain peak current	$I_{D\ (pulse)}$ Note1	80	A
Body-drain diode reverse drain current	I_{DR}	40	A
Body-drain diode reverse drain peak current	$I_{DR\ (pulse)}$ Note1	80	A
Avalanche current	I_{AP} Note3	14	A
Avalanche energy	E_{AR} Note3	11.7	mJ
Channel dissipation	Pch Note2	150	W
Channel to case thermal impedance	θch-c	0.833	°C/W
Channel temperature	Tch	150	°C
Storage temperature	Tstg	–55 to +150	°C

Notes: 1. PW ≤ 10 µs, duty cycle ≤ 1%
2. Value at Tc = 25°C
3. STch = 25°C, Tch ≤ 150°C

Electrical Characteristics

(Ta = 25°C)

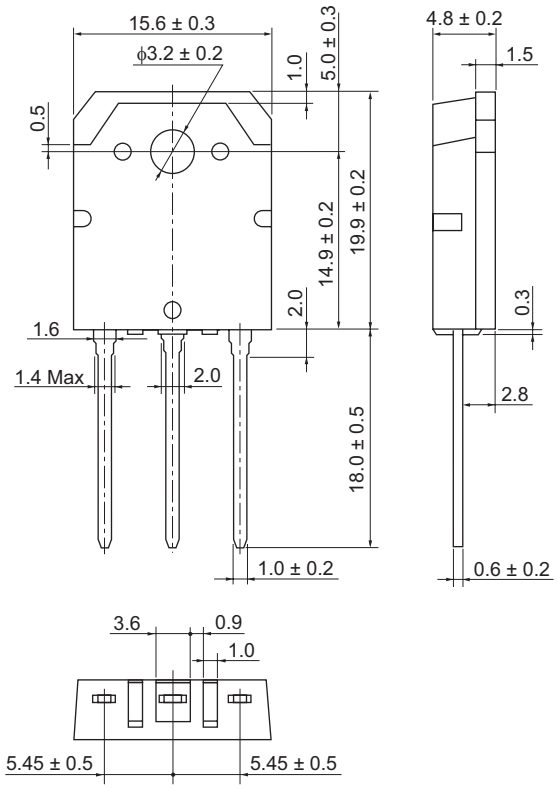
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	300	—	—	V	I_D = 10 mA, V_{GS} = 0
Zero gate voltage drain current	I_{DSS}	—	—	1	µA	V_{DS} = 300 V, V_{GS} = 0
Gate to source leak current	I_{GSS}	—	—	±0.1	µA	V_{GS} = ±30 V, V_{DS} = 0
Gate to source cutoff voltage	$V_{GS(off)}$	3.0	—	4.5	V	V_{DS} = 10 V, I_D = 1 mA
Forward transfer admittance	|yfs|	17	29	—	S	I_D = 20 A, V_{DS} = 10 V Note4
Static drain to source on state resistance	$R_{DS(on)}$	—	0.083	0.093	Ω	I_D = 20 A, V_{GS} = 10 V Note4
Input capacitance	Ciss	—	2600	—	pF	V_{DS} = 25 V V_{GS} = 0 f = 1 MHz
Output capacitance	Coss	—	330	—	pF	
Reverse transfer capacitance	Crss	—	40	—	pF	
Turn-on delay time	$t_{d(on)}$	—	41	—	ns	I_D = 20 A V_{GS} = 10 V R_L = 7.5 Ω Rg = 10 Ω
Rise time	t_r	—	131	—	ns	
Turn-off delay time	$t_{d(off)}$	—	104	—	ns	
Fall time	t_f	—	83	—	ns	
Total gate charge	Qg	—	60	—	nC	V_{DD} = 240 V V_{GS} = 10 V I_D = 40 A
Gate to source charge	Qgs	—	15	—	nC	
Gate to drain charge	Qgd	—	25	—	nC	
Body-drain diode forward voltage	V_{DF}	—	1.0	1.5	V	I_F = 40 A, V_{GS} = 0 Note4
Body-drain diode reverse recovery time	trr	—	220	—	ns	I_F = 40 A, V_{GS} = 0 di_F/dt = 100 A/µs

Notes: 4. Pulse test

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-3P	SC-65	PRSS0004ZE-A	TO-3P / TO-3PV	5.0g

Unit: mm



Ordering Information

Part No.	Quantity	Shipping Container
RJK3008DPK-00-T0	360 pcs	Box (Tube)

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

RENESAS SALES OFFICES

http://www.renesas.com

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Renesas Technology America, Inc.
450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.
Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology Singapore Pte. Ltd.
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510

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