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April 1st, 2010
Renesas Electronics Corporation

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

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RKR0503BKJ

Silicon Schottky Barrier Diode for Rectifying

REJ03G1891-0100

Rev.1.00

Feb 25, 2010

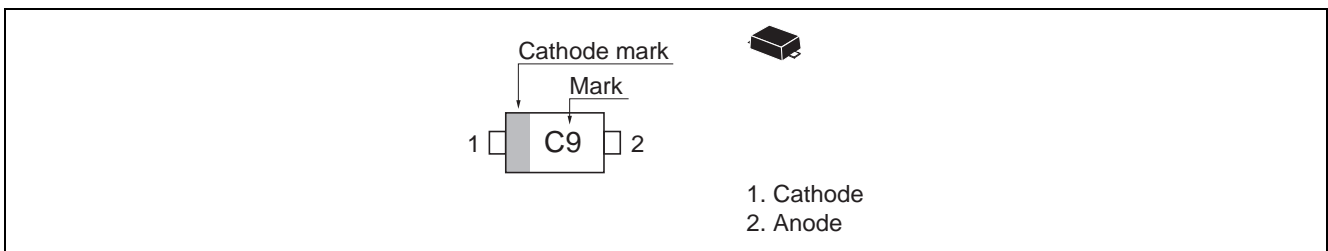
Features

- Low forward voltage drop and suitable for high efficiency rectifying.
- Ultra small Flat Lead Package (UFP) is suitable for compact and high-density surface mount design.

Ordering Information

Part No	Laser Mark	Package Name	Package Code	Taping Abbreviation (Quantity)
RKR0503BKJ P	C9	UFP	PWSF0002ZA-A	P (4,000 pcs / reel)
RKR0503BKJ R				R (8,000 pcs / reel)

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	30	V
Average rectified current	I_o * ¹	0.5	A
Non-Repetitive peak forward surge current	I_{FSM} * ²	2	A
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

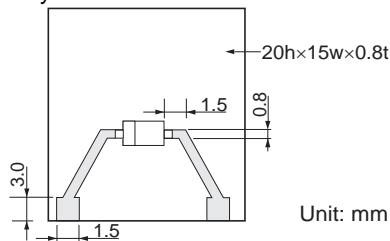
Notes: 1. See from Fig.4 to Fig.7.
2. 10 ms sine wave 1 pulse.

Electrical Characteristics

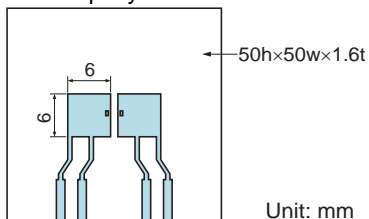
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Forward voltage	V_F	—	—	0.60	V	$I_F = 500$ mA
Reverse current	I_R	—	—	50	μA	$V_R = 30$ V
Thermal resistance	$R_{th(j-a)}$	—	600	—	°C/W	Polyimide board * ¹
Thermal resistance	$R_{th(j-L)}$	—	150	—	°C/W	Glass-epoxy board * ²

Notes: 1. Polyimide board



2. Glass-epoxy board



Note: In the UFP package, some lead is exposed because the tip of the lead is used as the cutting plane. Therefore, the solderability of the lead tip has been ignored. Please test and confirm before use.

Main Characteristics

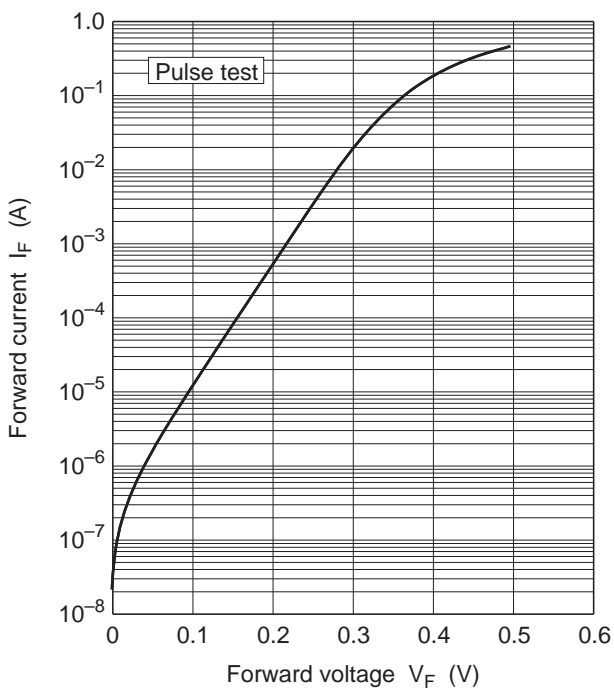


Fig.1 Forward current vs. Forward voltage

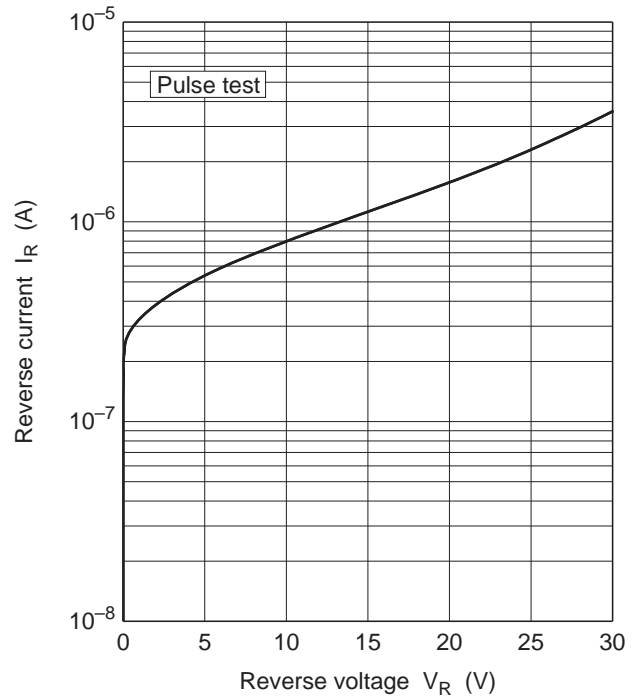


Fig.2 Reverse current vs. Reverse voltage

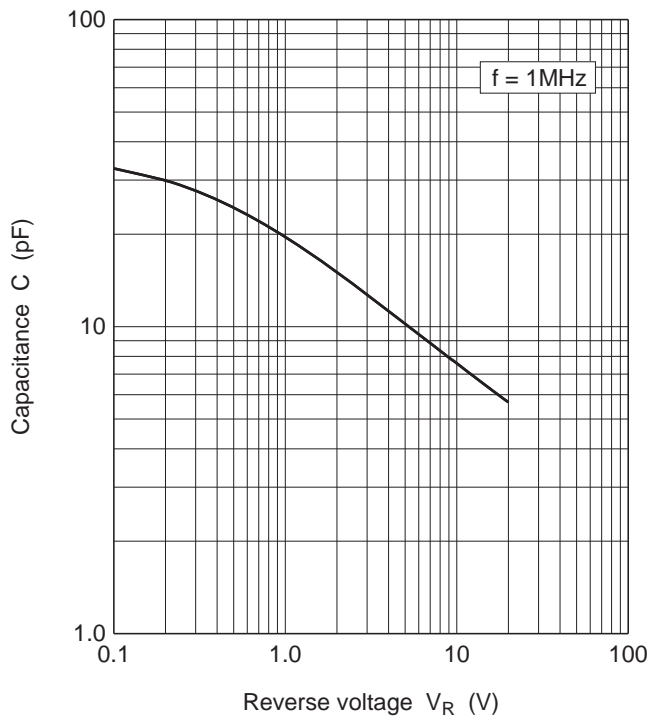


Fig.3 Capacitance vs. Reverse voltage

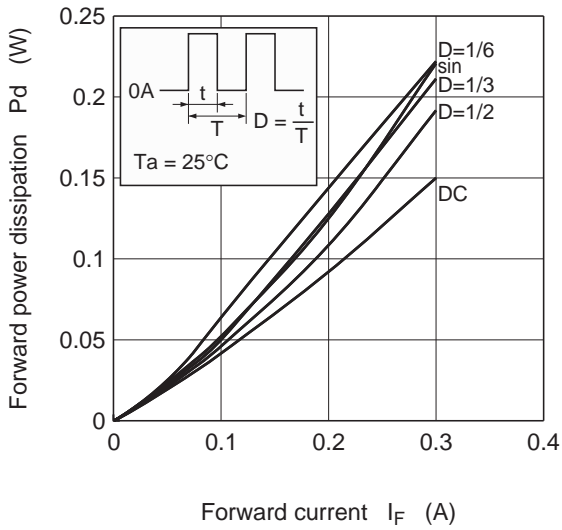


Fig.4 Forward power dissipation vs. Forward current

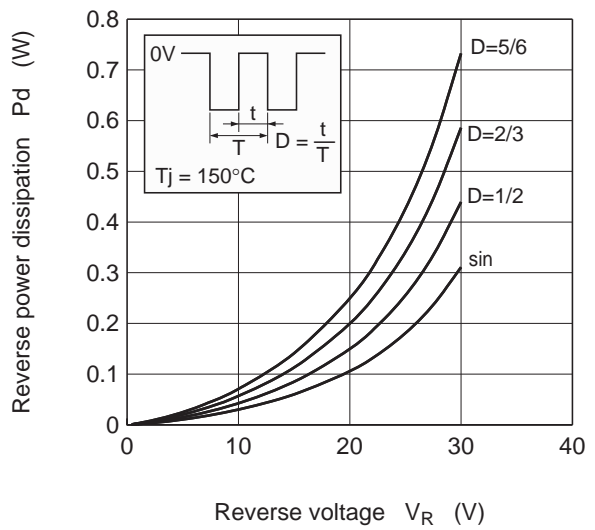


Fig.5 Reverse power dissipation vs. Reverse voltage

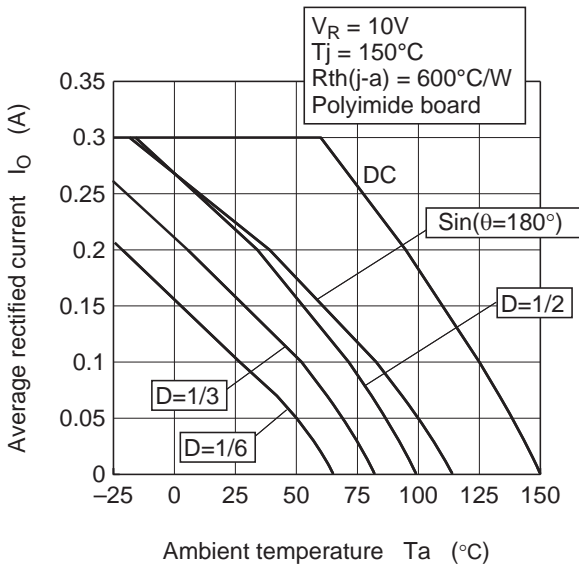


Fig.6 Average rectified current vs. Ambient temperature

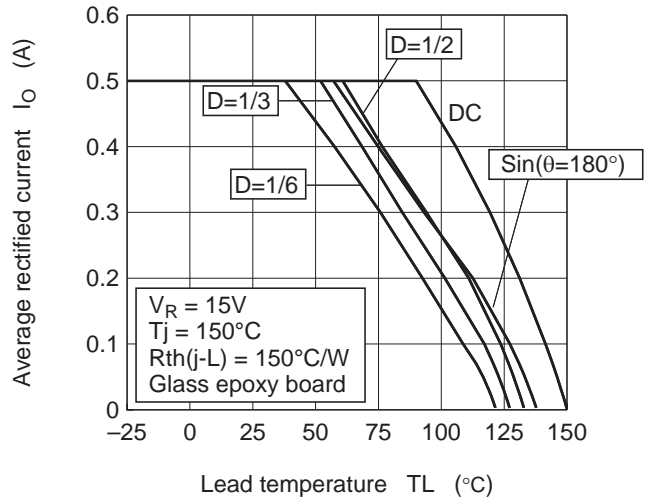
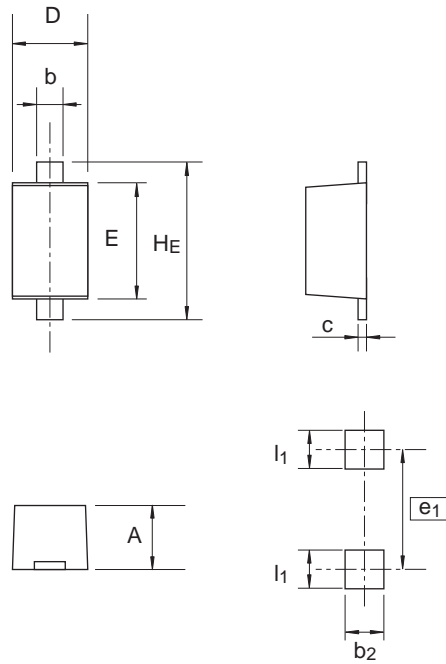


Fig.7 Average rectified current vs. Lead temperature

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
UFP	SC-79	PWSF0002ZA-A	UFP / UFPV	0.0016g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.08	0.13	0.18
D	0.70	0.80	0.90
E	1.10	1.20	1.30
HE	1.50	1.60	1.70
b2	—	0.80	—
e1	—	1.70	—
l1	—	0.60	—

Notes:

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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) 6887-7858/7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2377-3473

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 3518-3399

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, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510