

To our customers,

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## Old Company Name in Catalogs and Other Documents

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

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# HRV103A

## Silicon Schottky Barrier Diode for Rectifying

REJ03G0398-0300  
Rev.3.00  
Mar 25, 2008

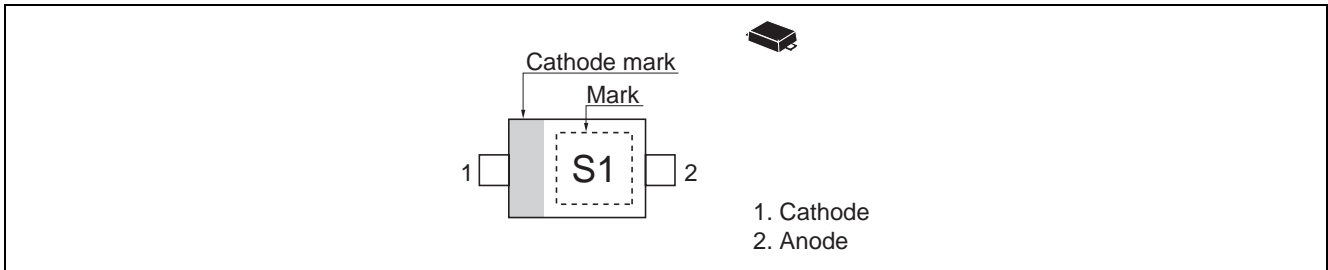
### Features

- Low forward voltage drop and suitable for high efficiency rectifying.
- Thin Ultra small Resin Package (TURP) is suitable for high density surface mounting and high speed assembly.

### Ordering Information

Part No.	Laser Mark	Package Name	Package Code
HRV103A	S1	TURP	PUSF0002ZC-A

### Pin Arrangement



### Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Reverse voltage	$V_R$	30	V
Average rectified current	$I_O^{*2}$	1	A
Non-Repetitive peak forward surge current	$I_{FSM}^{*1}$	5	A
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

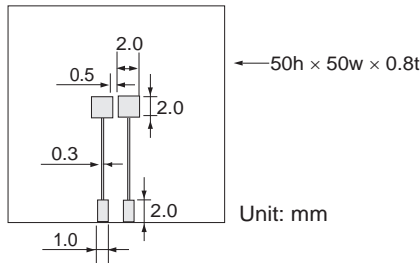
- Notes: 1. 10 ms sine wave 1 pulse  
 2. Ta = 44°C, With Ceramics board (board size: 50 mm × 50 mm, Land size 2 mm × 2 mm)  
 Short form wave (θ180°C),  $V_R = 10$  V.

### Electrical Characteristics

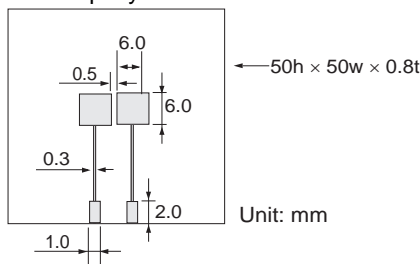
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Forward voltage	$V_{F1}$	—	—	0.27	V	$I_F = 100$ mA
	$V_{F2}$	—	—	0.36		$I_F = 700$ mA
	$V_{F3}$	—	—	0.42		$I_F = 1$ A
Reverse current	$I_{R1}$	—	—	100	μA	$V_R = 5$ V
	$I_{R2}$	—	—	1000		$V_R = 30$ V
Capacitance	C	—	—	40	pF	$V_R = 10$ V, $f = 1$ MHz
Thermal resistance	$R_{th(j-a)}$	—	100	—	°C/W	Ceramics board <sup>*1</sup>
		—	200	—		Glass epoxy board <sup>*2</sup>

Notes: 1. Ceramics board



2. Glass epoxy board



3. TURP is the structure which radiates heat to a substrate, please perform mounting to a substrate by reflow.

Main Characteristics

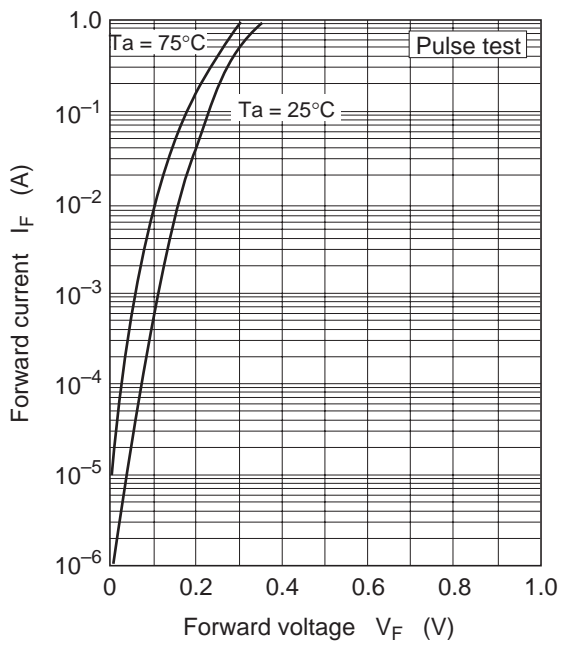


Fig.1 Forward current vs. Forward voltage

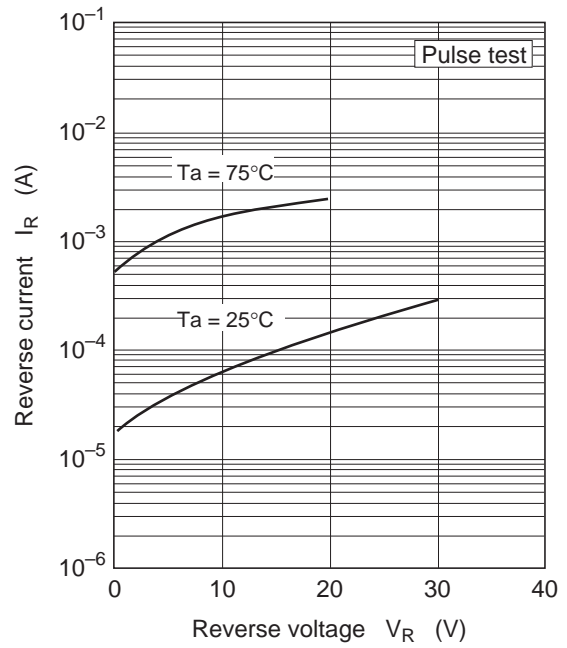


Fig.2 Reverse current vs. Reverse voltage

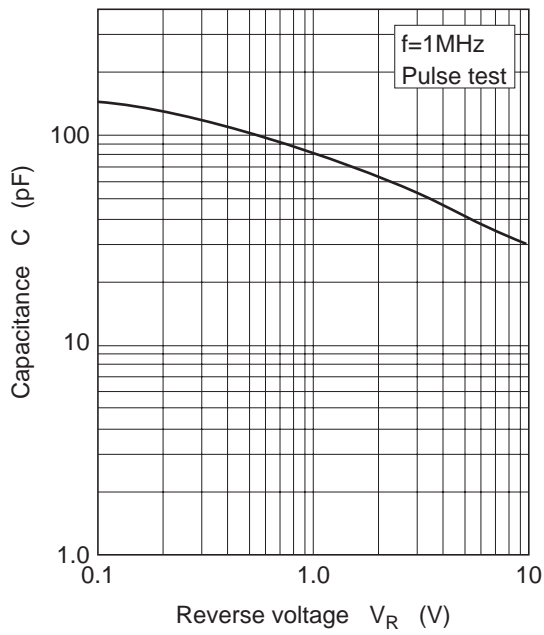


Fig.3 Capacitance vs. Reverse voltage

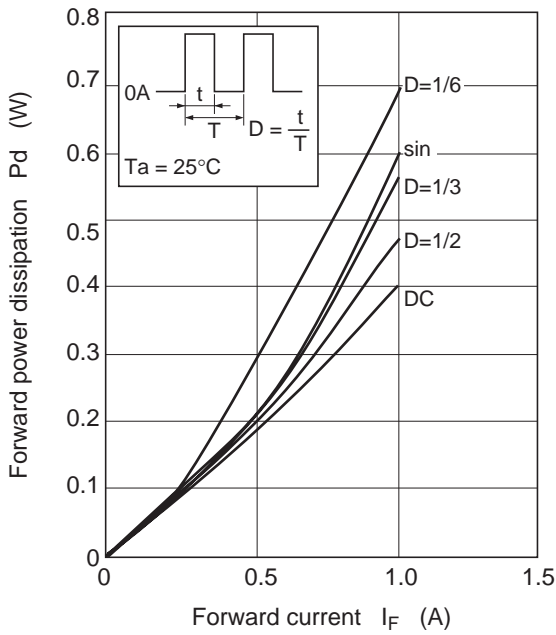


Fig.4 Forward power dissipation vs. Forward current

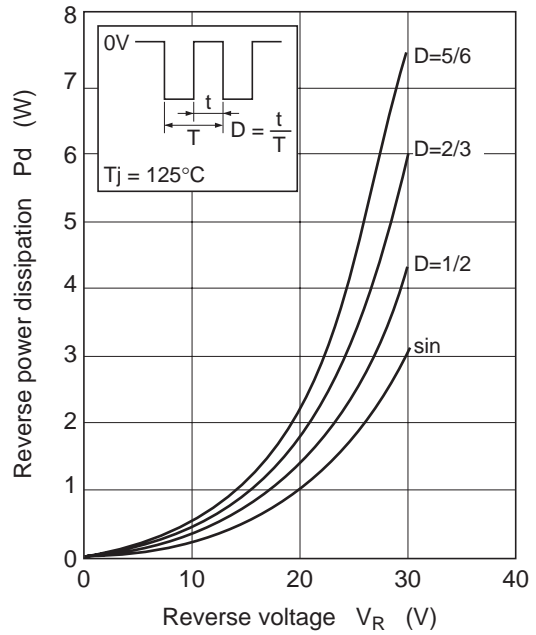


Fig.5 Reverse power dissipation vs. Reverse voltage

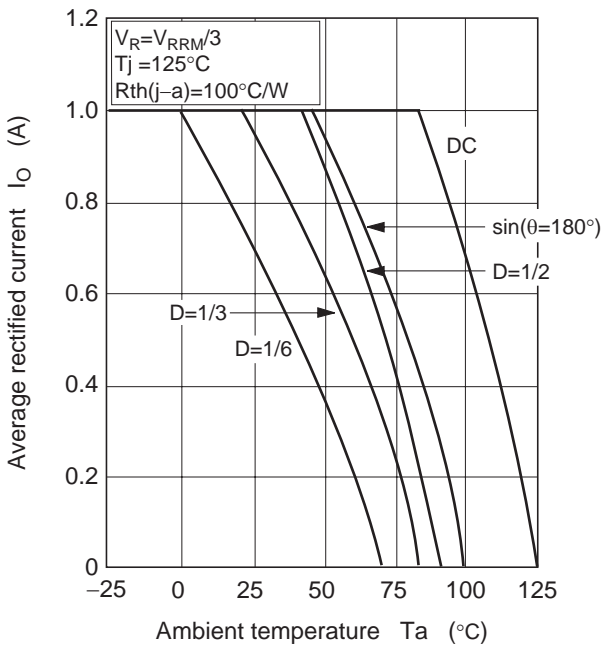
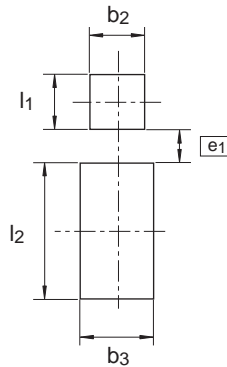
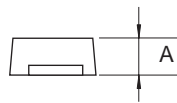
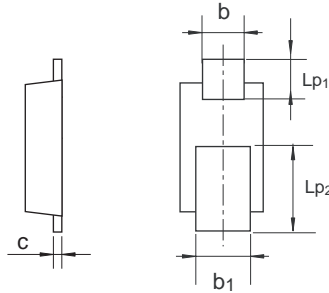
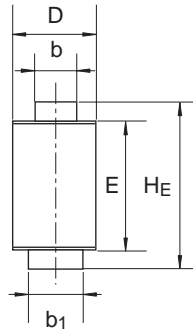


Fig.6 Average rectified current vs. Ambient temperature

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TURP	—	PUSF0002ZC-A	TURP/TURPV	0.004g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	—	—	0.55
b	0.55	0.60	0.65
b1	0.75	0.80	0.85
c	0.08	0.13	0.18
D	1.15	1.25	1.45
E	1.80	1.90	2.00
HE	2.40	2.50	2.60
Lp1	0.40	0.50	0.60
Lp2	1.30	1.40	1.50
b2	—	0.8	—
b3	—	1.1	—
e1	—	0.5	—
l1	—	0.8	—
l2	—	2.0	—

Notes:

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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

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Tel: <886> (2) 2715-2888, Fax: <886> (2) 3518-3399

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Tel: <65> 6213-0200, Fax: <65> 6278-8001

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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