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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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HRV103B

Silicon Schottky Barrier Diode for Rectifying

REJ03G0399-0300

Rev.3.00

Mar 25, 2008

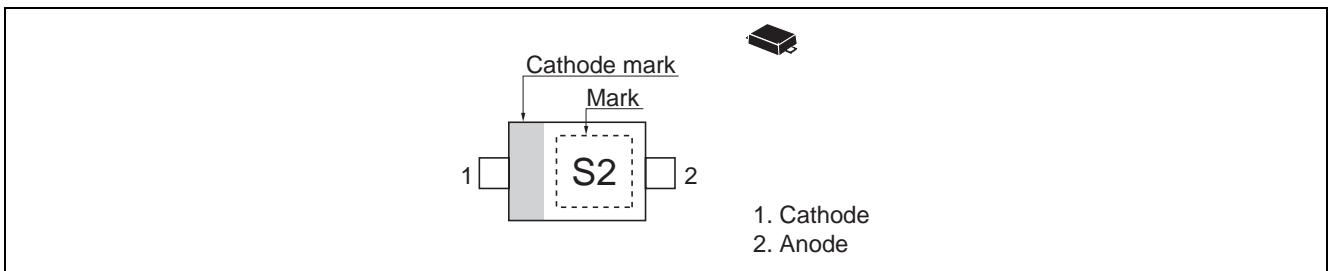
Features

- Low reverse current 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
HRV103B	S2	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	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

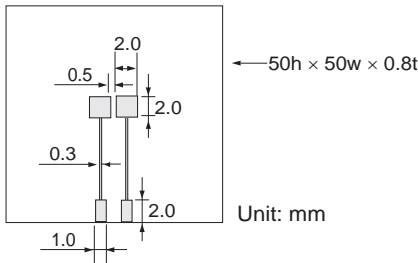
- Notes: 1. 10 ms sine wave 1 pulse
 2. Ta = 48°C, With Ceramics board (board size: 50 mm × 50 mm, Land size 2 mm × 2 mm)
 Short form wave (θ180°C), $V_R = 15 V$.

Electrical Characteristics

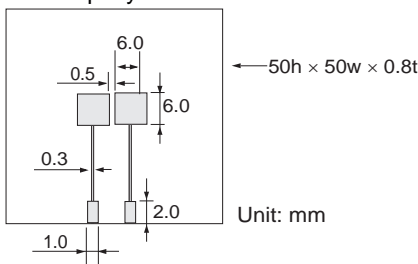
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Forward voltage	V_{F1}	—	—	0.35	V	$I_F = 100 \text{ mA}$
	V_{F2}	—	—	0.45		$I_F = 700 \text{ mA}$
	V_{F3}	—	—	0.50		$I_F = 1 \text{ A}$
Reverse current	I_{R1}	—	—	10	μA	$V_R = 5 \text{ V}$
	I_{R2}	—	—	100		$V_R = 30 \text{ V}$
Capacitance	C	—	—	40	pF	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$
Thermal resistance	$R_{th(j-a)}$	—	100	—	°C/W	Ceramics board ^{*1}
		—	200	—		Glass epoxy board ^{*2}

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

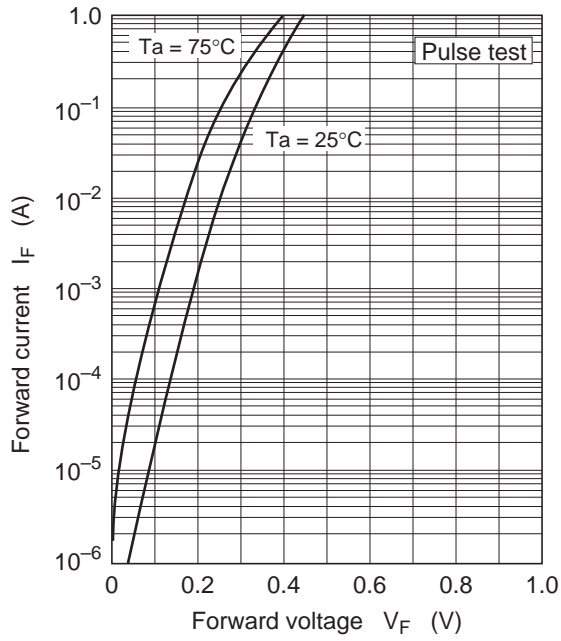


Fig.1 Forward current vs. Forward voltage

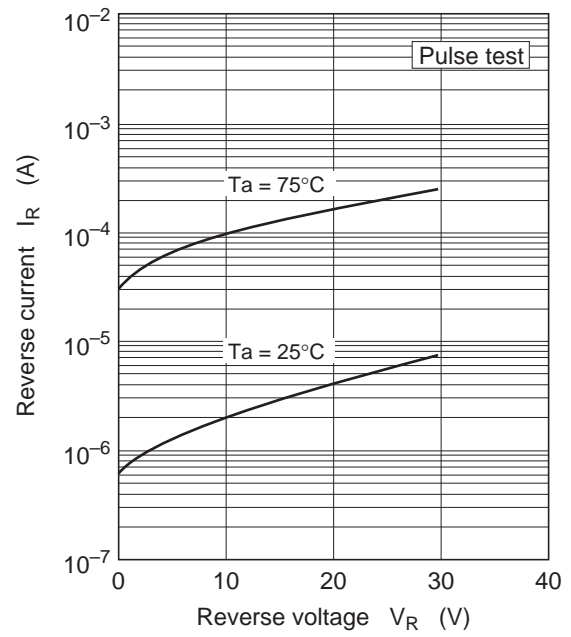


Fig.2 Reverse current vs. Reverse voltage

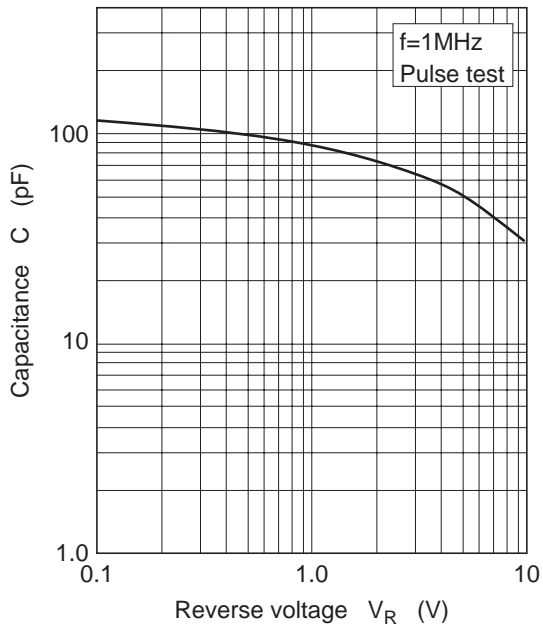


Fig.3 Capacitance vs. Reverse voltage

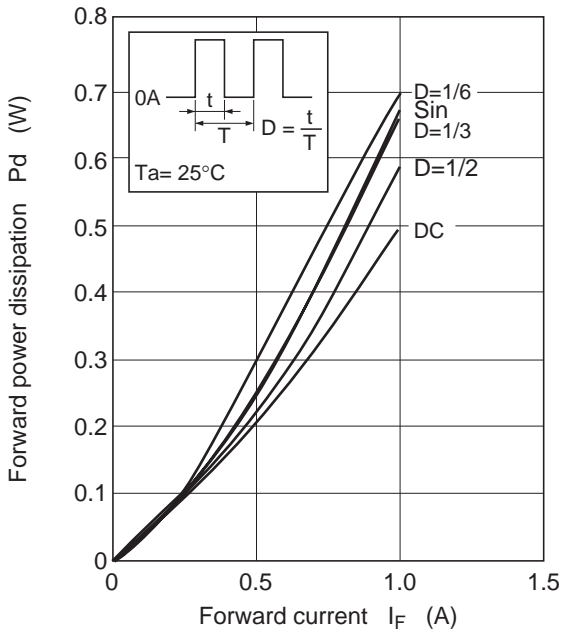


Fig.4 Forward power dissipation vs. Forward current

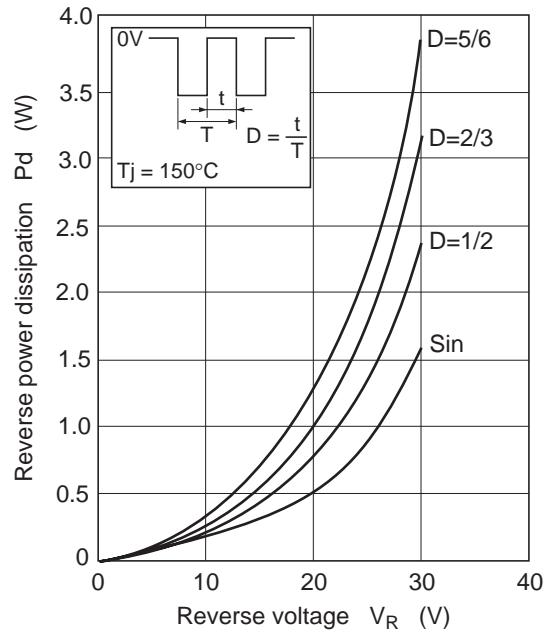


Fig.5 Reverse power dissipation vs. Reverse voltage

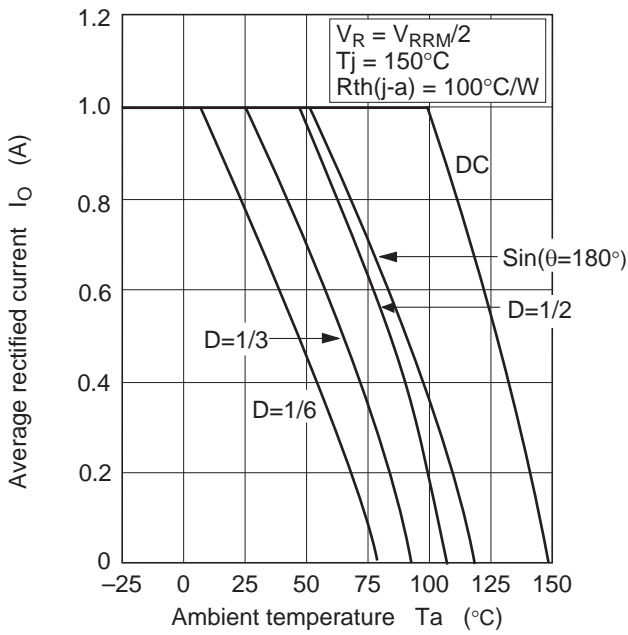
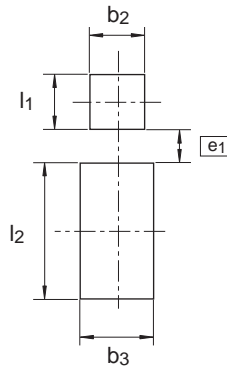
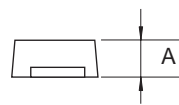
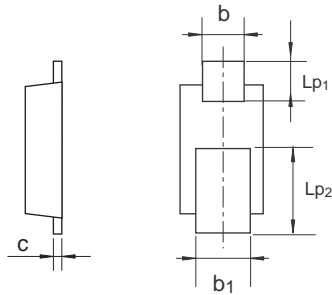
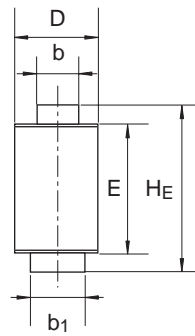


Fig.6 Average rectified current vs. Ambient temperature

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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