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April 1st, 2010
Renesas Electronics Corporation

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

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HZS-LL Series

Silicon Planar Zener Diode for Hard Knee Low Noise

REJ03G0167-0300

Rev.3.00

Nov 08, 2007

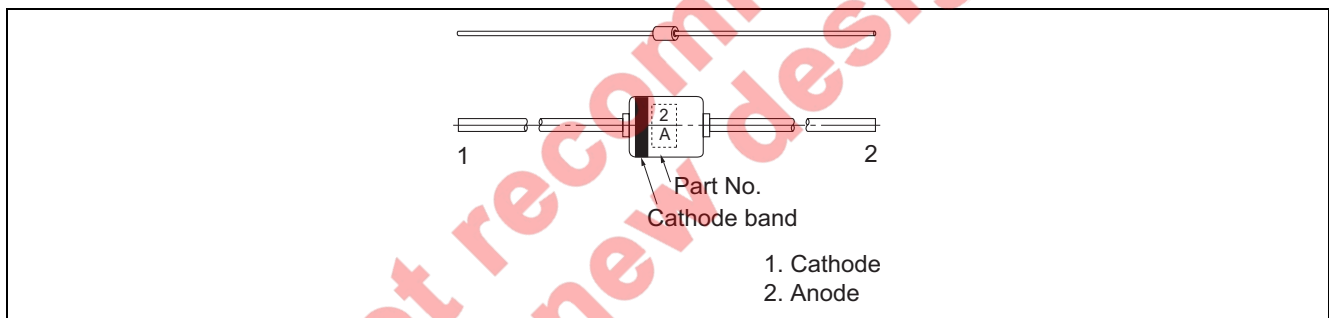
Features

- V_Z - I_Z characteristics are semilogarithmic linear from $I_Z = 1$ nA to 1 mA and have sharper breakdown knees in a low current region, and also lower V_Z temperature coefficients .
- Low dynamic impedance and low noise in the low current region (approximately 1/10 lower than the current zeners).
- Suitable for 5 mm-pitch high speed automatic insertion.

Ordering Information

Part No.	Cathode Band	Package Name	Package Code
HZS-LL Series	Navy blue	MHD	GRZZ0002ZC-A

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

tem	Symbol	Value	Unit
Power dissipation	Pd	250	mW
Junction temperature	Tj	175	°C
Storage temperature	Tstg	-55 to +175	°C

Electrical Characteristics

(Ta = 25°C)

Part No.	Zener Voltage			Reverse Current		Dynamic Resistance				Linearity*3	
	Vz(V) *1			IR (nA)		ZzT (Ω)		ZzK (Ω)*2		ΔVz1 (V)	ΔVz2(V)
	Min	Max	Iz (mA)	Max	VR (V)	Max	IzT (mA)	Typ	IzK (μA)	Max	Max
HVS2ALL	1.6	2.0	0.5	100	0.5	350	0.5	(1.2)	50	0.5	0.6
HVS2BLL	1.9	2.3									
HVS2CLL	2.2	2.6									
HVS3ALL	2.5	2.9	0.5	100	1.0	360	0.5	(1.2)	50	0.5	0.6
HVS3BLL	2.8	3.2									
HVS3CLL	3.1	3.5									
HVS4ALL	3.4	3.8	0.5	100	2.0	370	0.5	(1.5)	50	0.5	0.6
HVS4BLL	3.7	4.1									
HVS4CLL	4.0	4.4									
HVS5ALL	4.3	4.7	0.5	100	3.0	380	0.5	(1.5)	50	0.5	0.6
HVS5BLL	4.6	5.0									
HVS5CLL	4.9	5.3									

Notes: 1. Tested with DC.

2. Reference only.

3. $\Delta V_{z1} = V_z (I_z = 0.5 \text{ mA}) - V_{z1} (I_z = 0.05 \text{ mA})$ $\Delta V_{z2} = V_{z1} (I_z = 0.05 \text{ mA}) - V_{z2} (I_z = 0.001 \text{ mA})$

Main Characteristic

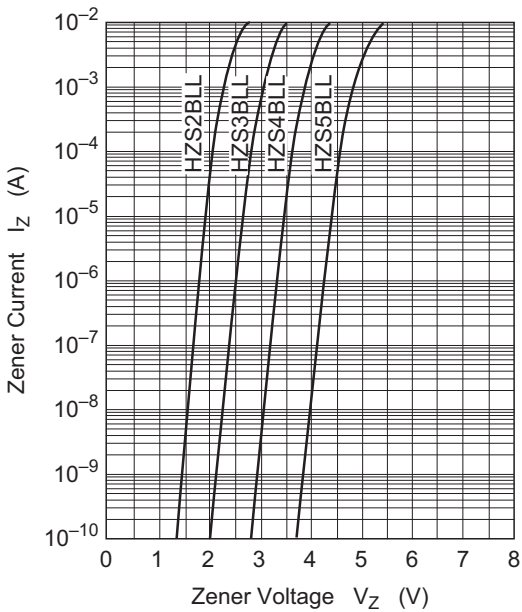


Fig.1 Zener current vs. Zener voltage

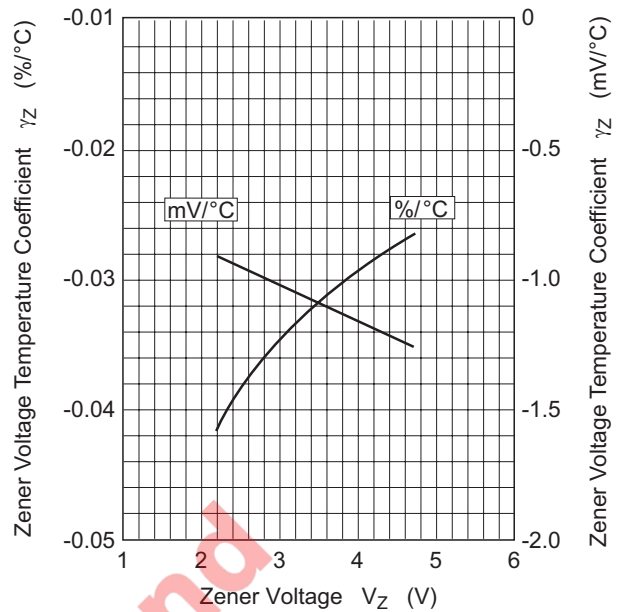


Fig.2 Temperature Coefficient vs. Zener voltage

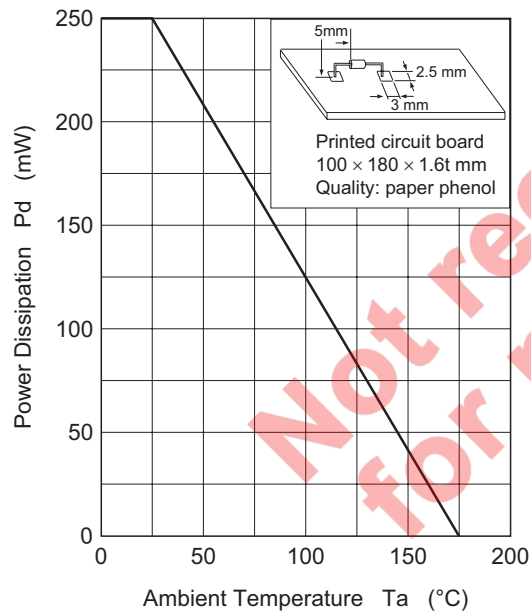
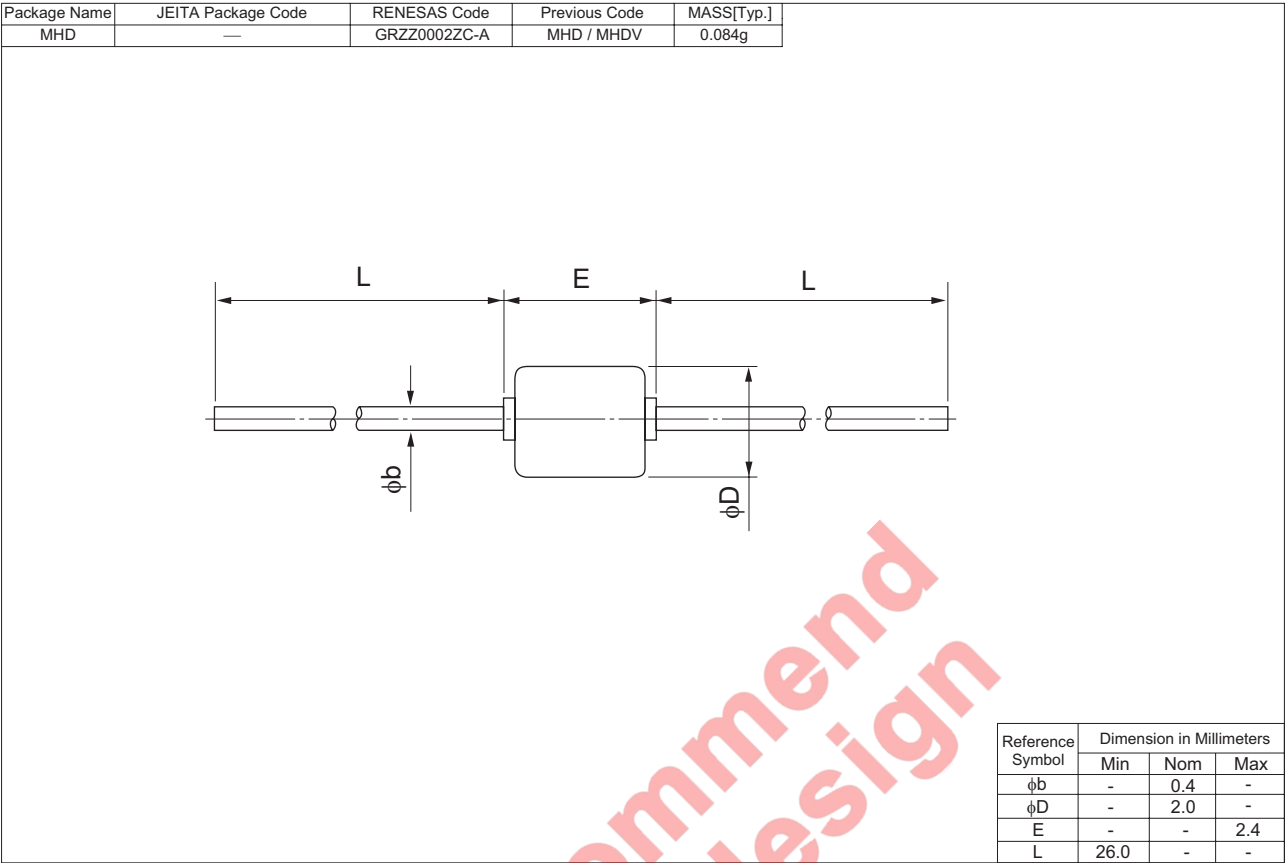


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions



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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, AZIA Center, 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