

To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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HZU-LL Series

Silicon Epitaxial Planar Zener Diode for Hard Knee Low Noise



ADE-208-236C (Z)

Rev.3
Dec. 2002

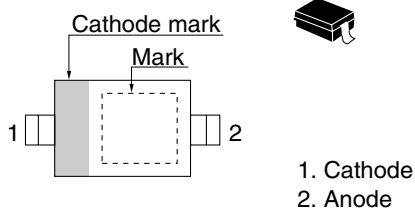
Features

- Low noise voltage (approximately 1/3 to 1/10 lower than the HZU series).
- Temperature coefficient is approximately 1/2 lower than the HZU series.
- V_Z - I_Z characteristics are semi-logarithmic linear from $I_Z=1\text{nA}$ to 1mA .
- Ultra small Resin Package(URP) is suitable for surface mount design.

Ordering Information

Type No.	Mark	Package Code
HZU-LL Series	Let to Mark Code	URP

Pin Arrangement



HZU-LL Series

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd * ¹	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. See Fig.3.

Electrical Characteristics

(Ta = 25°C)

		Zener Voltage		Reverse Current		Dynamic Resistance				Linearity	
		V _z (V) * ¹		I _R (nA)		Z _{zT} (Ω)		Z _{zK} (kΩ) * ²		ΔV _z (V) * ³	
Type	Grade	Min	Max	I _z (mA)	Max	V _R (V)	Max	I _{zT} (mA)	Typ	I _{zK} (μA)	Max
HZU2LL	A	1.6	2.0	0.5	100	0.5	350	0.5	(1.2)	50	0.5
	B	1.9	2.3								
	C	2.2	2.6								
HZU3LL	A	2.5	2.9	0.5	100	1.0	360	0.5	(1.2)	50	0.5
	B	2.8	3.2								
	C	3.1	3.5								
HZU4LL	A	3.4	3.8	0.5	100	2.0	370	0.5	(1.5)	50	0.5
	B	3.7	4.1								
	C	4.0	4.4								
HZU5LL	A	4.3	4.7	0.5	100	3.0	380	0.5	(1.5)	50	0.5
	B	4.6	5.0								
	C	4.9	5.3								

Notes: 1. Tested with DC.

2. Reference only.

3. ΔV_z = V_z (I_z = 0.5 mA) - V_z (I_z = 0.05 mA)

4. Type No. is as follows; HZU2ALL, HZU2BLL, ... HZU5CLL.

Mark Code

Type	Grade	Mark No.	Type	Grade	Mark No.
HZU2LL	A	2A	HZU4LL	A	4A
	B	2B		B	4B
	C	2C		C	4C
HZU3LL	A	3A	HZU5LL	A	5A
	B	3B		B	5B
	C	3C		C	5C

Main Characteristic

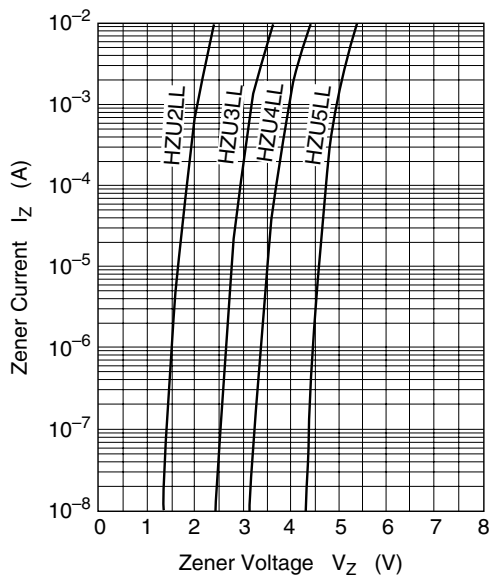


Fig.1 Zener current vs. Zener voltage

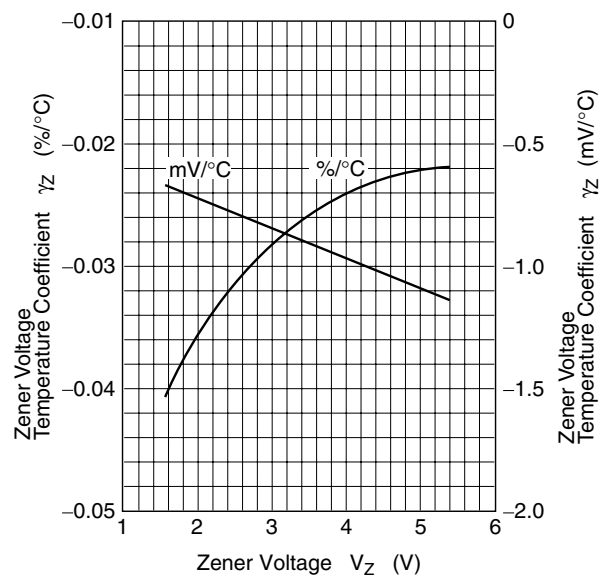


Fig.2 Temperature Coefficient vs. Zener voltage

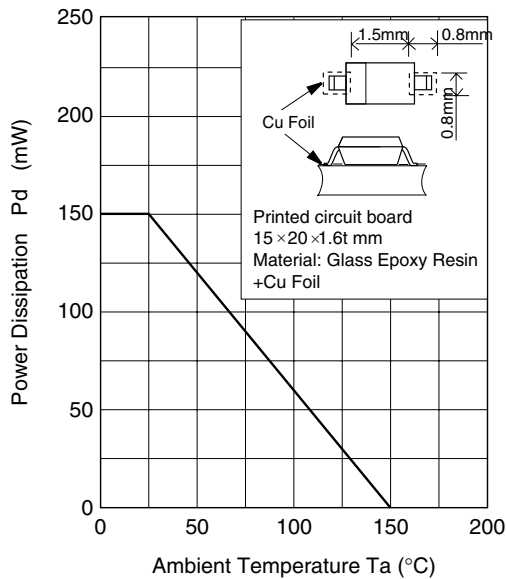
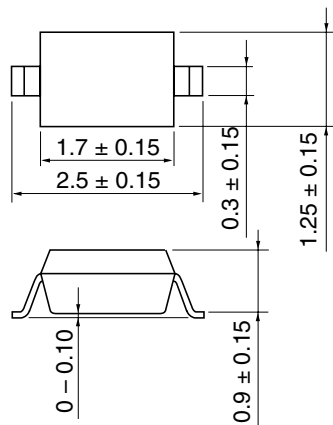


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of July, 2002
Unit: mm



Hitachi Code	URP
JEDEC	Conforms
JEITA	—
Mass (reference value)	0.004 g

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Sales Offices

HITACHI

Hitachi, Ltd.

Semiconductor & Integrated Circuits
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: (03) 3270-2111 Fax: (03) 3270-5109

URL <http://www.hitachisemiconductor.com/>

For further information write to:

Hitachi Semiconductor (America) Inc.
179 East Tasman Drive
San Jose, CA 95134
Tel: <1> (408) 433-1990
Fax: <1> (408) 433-0223

Hitachi Europe Ltd.
Electronic Components Group
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Europe GmbH
Electronic Components Group
Dornacher Str 3
D-85622 Feldkirchen
Postfach 201, D-85619 Feldkirchen
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Asia Ltd.
Hitachi Tower
16 Collyer Quay #20-00
Singapore 049318
Tel: <65>-6538-6533/6538-8577
Fax: <65>-6538-6933/6538-3877
URL: <http://semiconductor.hitachi.com.sg>

Hitachi Asia Ltd.
(Taipei Branch Office)
4/F, No. 167, Tun Hwa North Road
Hung-Kuo Building
Taipei (105), Taiwan
Tel: <886>-(2)-2718-3666
Fax: <886>-(2)-2718-8180
Telex: 23222 HAS-TP
URL: <http://semiconductor.hitachi.com.tw>

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon Hong Kong
Tel: <852>-2735-9218
Fax: <852>-2730-0281
URL: <http://semiconductor.hitachi.com.hk>

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