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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

# RENESAS

ADE-208-236C (Z)

Rev.3 Dec. 2002

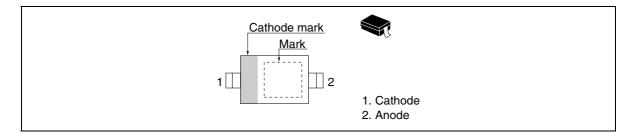
#### Features

- 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.
- Vz-Iz characteristics are semi-logarithmic linear from Iz=1nA 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**

 $(Ta = 25^{\circ}C)$ 

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**

 $(Ta = 25^{\circ}C)$ 

		Zener	Voltage	•	Revers	e Current	Dynam	nic Resis	tance		Linearity
		V <sub>z</sub> (V) *	1		l <sub>R</sub> (nA)		Z <sub>zτ</sub> (Ω)		Z <sub>zκ</sub> (kΩ	2) * <sup>2</sup>	ΔV <sub>z</sub> (V) * <sup>3</sup>
Туре	Grade	Min	Max	l <sub>z</sub> (mA)	Max	V <sub>R</sub> (V)	Мах	l <sub>zt</sub> (mA)	Тур	Ι <sub>zκ</sub> (μΑ)	Max
HZU2LL	А	1.6	2.0	0.5	100	0.5	350	0.5	(1.2)	50	0.5
	В	1.9	2.3	_							
	С	2.2	2.6	_							
HZU3LL	А	2.5	2.9	0.5	100	1.0	360	0.5	(1.2)	50	0.5
	В	2.8	3.2	_							
	С	3.1	3.5								
HZU4LL	А	3.4	3.8	0.5	100	2.0	370	0.5	(1.5)	50	0.5
	В	3.7	4.1								
	С	4.0	4.4								
HZU5LL	А	4.3	4.7	0.5	100	3.0	380	0.5	(1.5)	50	0.5
	В	4.6	5.0								
	С	4.9	5.3	_							
Notos: 1	Taatad	with DC									

Notes: 1. Tested with DC.

2. Reference only.

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

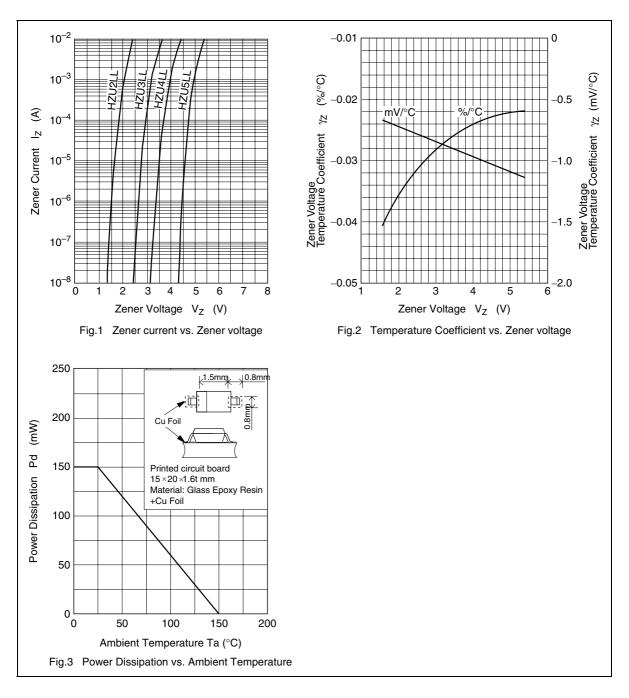
4. Type No. is as follows; HZU2ALL, HZU2BLL, ... HZU5CLL.

#### Mark Code

Grade	MarK No.	Туре	Grade	Mark No.
А	2A	HZU4LL	А	4A
В	2B		В	4B
С	2C		С	4C
А	ЗA	HZU5LL	А	5A
В	3B		В	5B
С	3C		С	5C
	A B C A B	A 2A   B 2B   C 2C   A 3A   B 3B	A2AHZU4LLB2BC2CA3AHZU5LLB3B	A2AHZU4LLAB2BBC2CCA3AHZU5LLAB3BB

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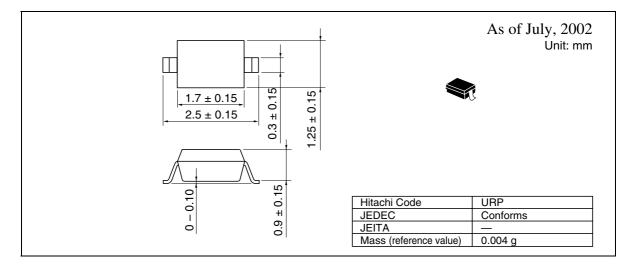
#### **Main Characteristic**



RENESAS

### **HZU-LL Series**

### **Package Dimensions**





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