To all our customers

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

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Keep safety first in your circuit designs!

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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

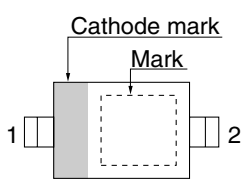
Features

- 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.
- 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



1. Cathode
2. Anode

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. $\Delta V_z = V_z$ (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

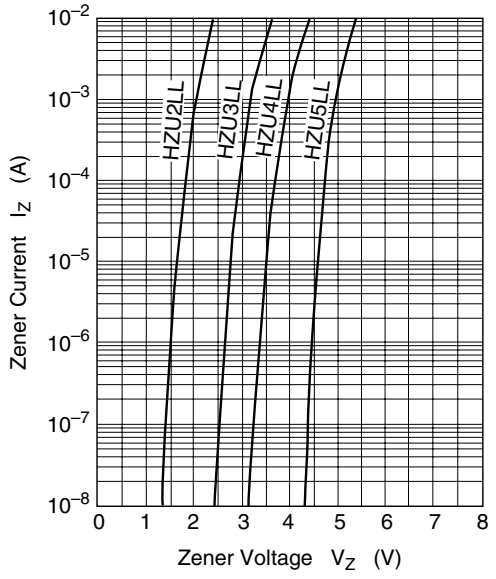


Fig.1 Zener current vs. Zener voltage

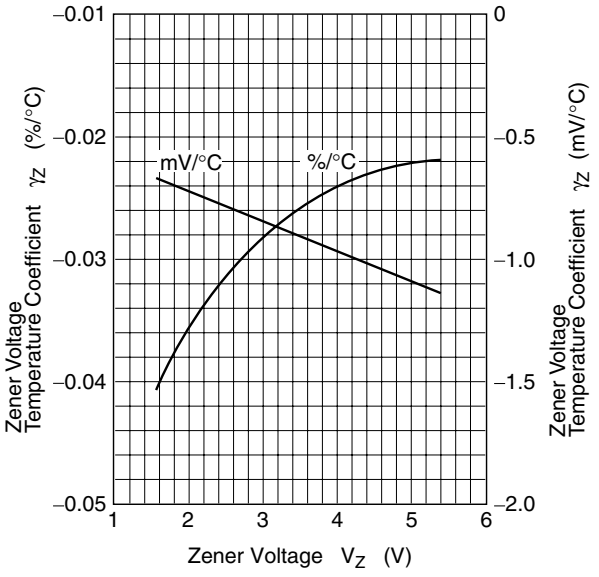


Fig.2 Temperature Coefficient vs. Zener voltage

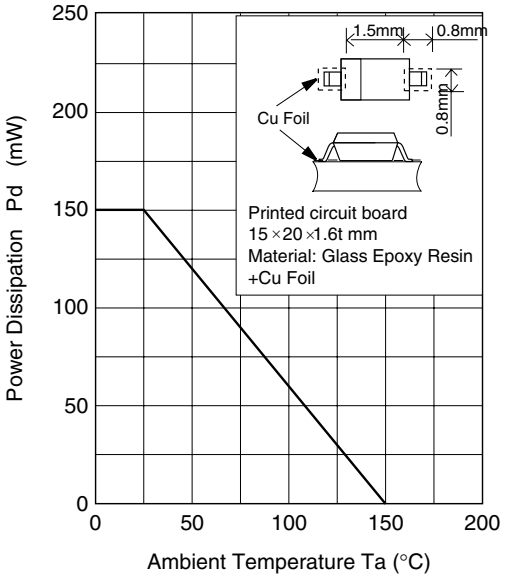
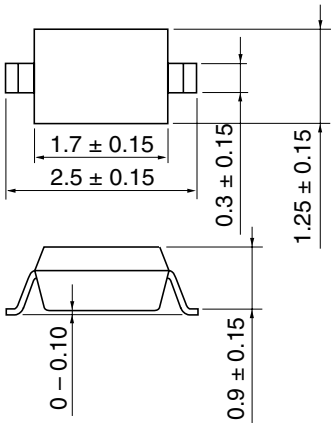


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of July, 2002

Unit: mm



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

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