

To our customers,

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## Old Company Name in Catalogs and Other Documents

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# HZU-L Series

## Silicon Planar Zener Diode for Low Noise Application

REJ03G0043-0400  
Rev.4.00  
Oct.29.2007

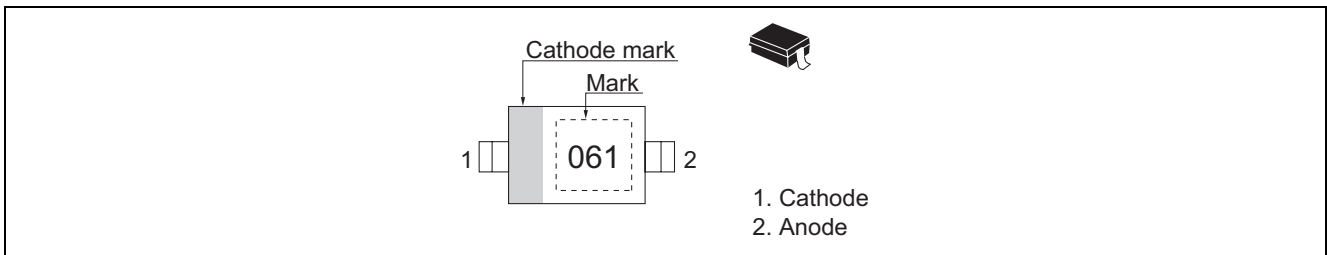
### Features

- Diode noise level of this series is approximately 1/3-1/10 lower than the HZ series.
- Low leakage and low zener impedance.
- Wide spectrum from 5.2 V through 14.3 V of zener voltage provide flexible application.
- Ultra small Resin Package (URP) is suitable for surface mount design.

### Ordering Information

Part No.	Laser Mark	Package Name	Package Code
HZU-L Series	Let to Mark Code	URP	PTSP0002ZA-A

### Pin Arrangement



**Absolute Maximum Ratings**

(Ta = 25°C)

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

**Electrical Characteristics**

(Ta = 25°C)

Type	Zener Voltage		Test Condition	Reverse Current		Dynamic Resistance	
	V <sub>Z</sub> (V) *1			I <sub>R</sub> (μA)	Test Condition	r <sub>d</sub> (Ω)	Test Condition
	Min	Max	I <sub>Z</sub> (mA)	Max	V <sub>R</sub> (V)	Max	I <sub>Z</sub> (mA)
HZU6A1L	5.2	5.5	0.5	1	2.0	150	0.5
HZU6A2L	5.3	5.6					
HZU6A3L	5.4	5.7					
HZU6B1L	5.5	5.8	0.5	1	2.0	80	0.5
HZU6B2L	5.6	5.9					
HZU6B3L	5.7	6.0					
HZU6C1L	5.8	6.1	0.5	1	2.0	60	0.5
HZU6C2L	6.0	6.3					
HZU6C3L	6.1	6.4					
HZU7A1L	6.3	6.6	0.5	1	3.5	60	0.5
HZU7A2L	6.4	6.7					
HZU7A3L	6.6	6.9					
HZU7B1L	6.7	7.0	0.5	1	3.5	60	0.5
HZU7B2L	6.9	7.2					
HZU7B3L	7.0	7.3					
HZU7C1L	7.2	7.6	0.5	1	3.5	60	0.5
HZU7C2L	7.3	7.7					
HZU7C3L	7.5	7.9					
HZU9A1L	7.7	8.1	0.5	1	6.0	60	0.5
HZU9A2L	7.9	8.3					
HZU9A3L	8.1	8.5					
HZU9B1L	8.3	8.7	0.5	1	6.0	60	0.5
HZU9B2L	8.5	8.9					
HZU9B3L	8.7	9.1					
HZU9C1L	8.9	9.3	0.5	1	6.0	60	0.5
HZU9C2L	9.1	9.5					
HZU9C3L	9.3	9.7					
HZU11A1L	9.5	9.9	0.5	1	8.0	80	0.5
HZU11A2L	9.7	10.1					
HZU11A3L	9.9	10.3					
HZU11B1L	10.2	10.6	0.5	1	8.0	80	0.5
HZU11B2L	10.4	10.8					
HZU11B3L	10.7	11.1					
HZU11C1L	10.9	11.3	0.5	1	8.0	80	0.5
HZU11C2L	11.1	11.6					
HZU11C3L	11.4	11.9					

Note: 1. Tested with DC.

Type	Zener Voltage		Test Condition	Reverse Current		Dynamic Resistance	
	V <sub>Z</sub> (V) *1			I <sub>R</sub> (μA)	Test Condition	r <sub>d</sub> (Ω)	Test Condition
	Min	12.1	I <sub>Z</sub> (mA)	Max	V <sub>R</sub> (V)	Max	I <sub>Z</sub> (mA)
HZU12A1L	11.6	12.4	0.5	1	10.5	80	0.5
HZU12A2L	11.9	12.7					
HZU12A3L	12.2	12.9					
HZU12B1L	12.4	13.1					
HZU12B2L	12.6	13.4					
HZU12B3L	12.9	13.7					
HZU12C1L	13.2	14.0					
HZU12C2L	13.5	14.3					
HZU12C3L	13.8	12.1					

Note: 1. Tested with DC.

**Mark Code**

Part No.	Mark No.
HZU6A1L	061
HZU6A2L	062
HZU6A3L	063
HZU6B1L	064
HZU6B2L	065
HZU6B3L	066
HZU6C1L	067
HZU6C2L	068
HZU6C3L	069
HZU7A1L	071
HZU7A2L	072
HZU7A3L	073
HZU7B1L	074
HZU7B2L	075
HZU7B3L	076
HZU7C1L	077
HZU7C2L	078
HZU7C3L	079

Part No.	Mark No.
HZU9 A1L	091
HZU9 A2L	092
HZU9 A3L	093
HZU9 B1L	094
HZU9 B2L	095
HZU9 B3L	096
HZU9 C1L	097
HZU9 C2L	098
HZU9 C3L	099
HZU11A1L	111
HZU11A2L	112
HZU11A3L	113
HZU11B1L	114
HZU11B2L	115
HZU11B3L	116
HZU11C1L	117
HZU11C2L	118
HZU11C3L	119

Part No.	Mark No.
HZU12A1L	121
HZU12A2L	122
HZU12A3L	123
HZU12B1L	124
HZU12B2L	125
HZU12B3L	126
HZU12C1L	127
HZU12C2L	128
HZU12C3L	129

Main Characteristic

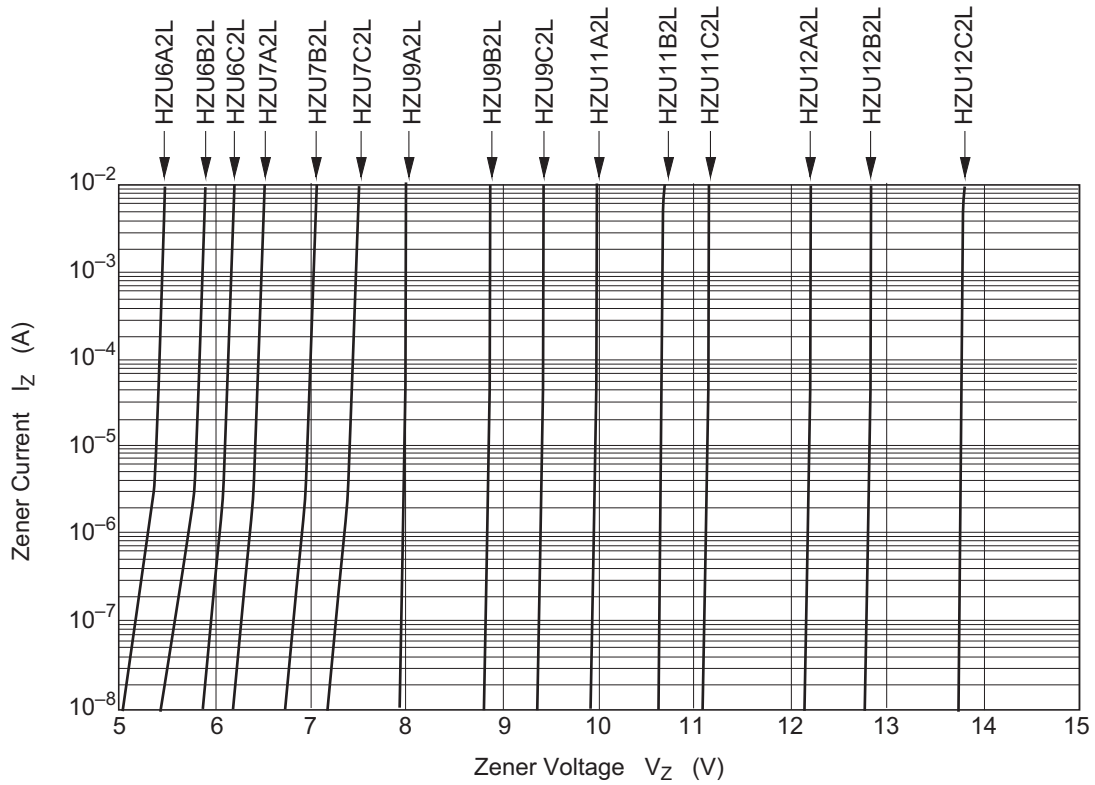


Fig.1 Zener current vs. Zener voltage

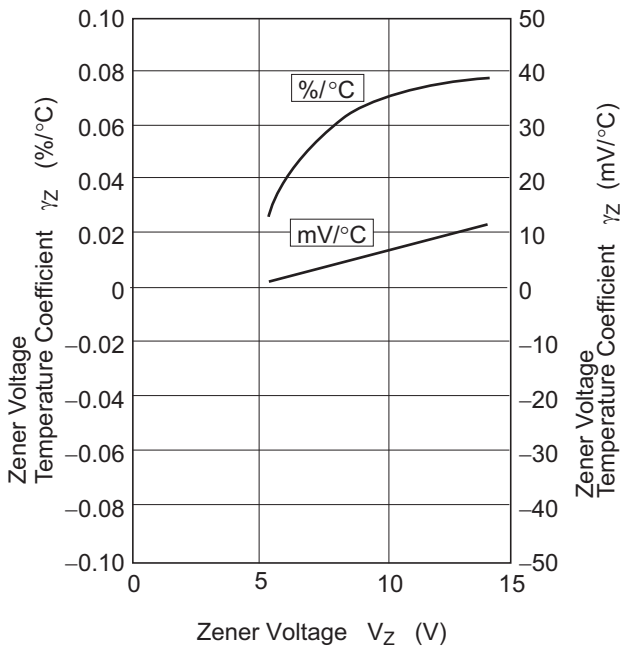


Fig.2 Temperature Coefficient vs. Zener voltage

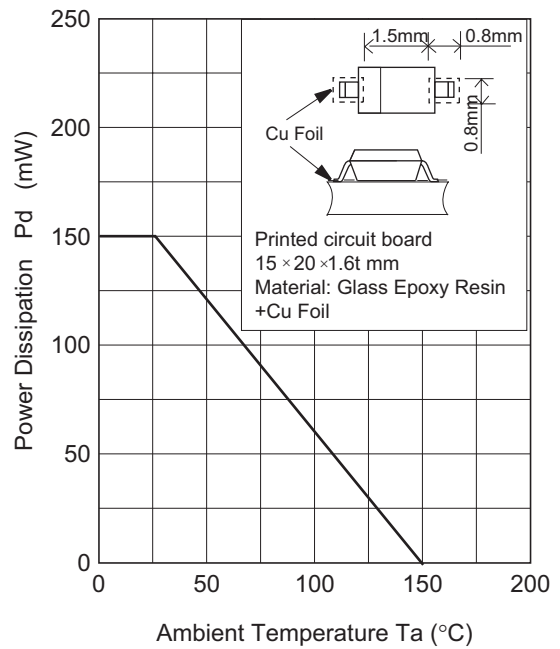
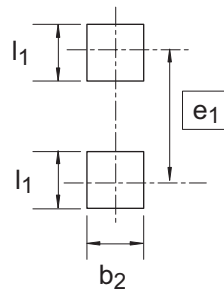
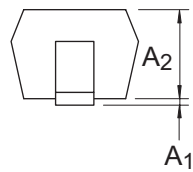
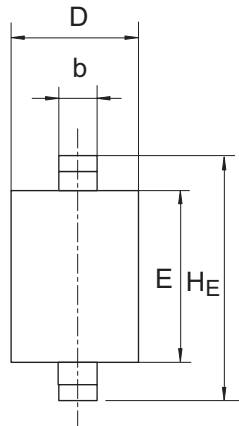


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
URP	SC-76A	PTSP0002ZA-A	URP / URPV	0.004g



Pattern of terminal position areas

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A <sub>1</sub>	0	-	0.1
A <sub>2</sub>	0.75	0.90	1.05
b	0.15	0.30	0.45
D	1.10	1.25	1.40
E	1.55	1.70	1.85
H <sub>E</sub>	2.35	2.50	2.65
b <sub>2</sub>	-	0.80	-
e <sub>1</sub>	-	2.30	-
l <sub>1</sub>	-	0.80	-

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