

# HZU Series

## Silicon Planar Zener Diode for Stabilizer

REJ03G0625-0900  
Rev.9.00  
Jul 06, 2006

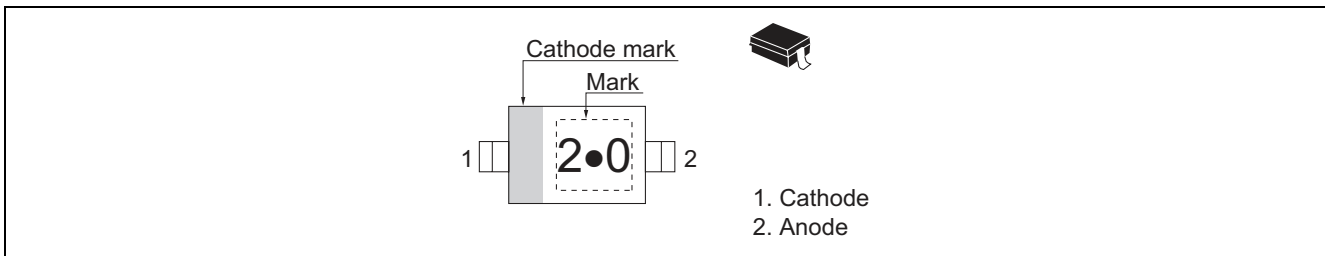
### Features

- These diodes are delivered taped.
- Ultra small Resin Package (URP) is suitable for surface mount design.

### Ordering Information

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

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd *1	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. With P.C. Board.

## Electrical Characteristics

(Ta = 25°C)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		Vz (V)*1		Test Condition	I <sub>R</sub> (∞A)	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)
HZU2.0	B	1.90	2.20	5	120	0.5	100	5
HZU2.2	B	2.10	2.40	5	120	0.7	100	5
HZU2.4	B	2.30	2.60	5	120	1.0	100	5
HZU2.7	B	2.50	2.90	5	120	1.0	110	5
	B1	2.50	2.75					
	B2	2.65	2.90					
HZU3.0	B	2.80	3.20	5	50	1.0	120	5
	B1	2.80	3.05					
	B2	2.95	3.20					
HZU3.3	B	3.10	3.50	5	20	1.0	130	5
	B1	3.10	3.35					
	B2	3.25	3.50					
HZU3.6	B	3.40	3.80	5	10	1.0	130	5
	B1	3.40	3.65					
	B2	3.55	3.80					
HZU3.9	B	3.70	4.10	5	10	1.0	130	5
	B1	3.70	3.97					
	B2	3.87	4.10					
HZU4.3	B	4.01	4.48	5	10	1.0	130	5
	B1	4.01	4.21					
	B2	4.15	4.34					
	B3	4.28	4.48					
HZU4.7	B	4.42	4.90	5	10	1.0	130	5
	B1	4.42	4.61					
	B2	4.55	4.75					
	B3	4.69	4.90					
HZU5.1	B	4.84	5.37	5	5	1.5	130	5
	B1	4.84	5.04					
	B2	4.98	5.20					
	B3	5.14	5.37					
HZU5.6	B	5.31	5.92	5	5	2.5	80	5
	B1	5.31	5.55					
	B2	5.49	5.73					
	B3	5.67	5.92					

Note: 1. Tested with pulse (P<sub>w</sub> = 40 ms)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		$V_Z (V)^{*1}$		Test Condition	$I_R (\infty A)$	Test Condition	$r_d (\Omega)$	Test Condition
		Min	Max	$I_Z (mA)$	Max	$V_R (V)$	Max	$I_Z (mA)$
HZU6.2	B	5.86	6.53	5	2	3.0	50	5
	B1	5.86	6.12					
	B2	6.06	6.33					
	B3	6.26	6.53					
HZU6.8	B	6.47	7.14	5	2	3.5	30	5
	B1	6.47	6.73					
	B2	6.65	6.93					
	B3	6.86	7.14					
HZU7.5	B	7.06	7.84	5	2	4.0	30	5
	B1	7.06	7.36					
	B2	7.28	7.60					
	B3	7.52	7.84					
HZU8.2	B	7.76	8.64	5	2	5.0	30	5
	B1	7.76	8.10					
	B2	8.02	8.36					
	B3	8.28	8.64					
HZU9.1	B	8.56	9.55	5	2	6.0	30	5
	B1	8.56	8.93					
	B2	8.85	9.23					
	B3	9.15	9.55					
HZU10	B	9.45	10.55	5	2	7.0	30	5
	B1	9.45	9.87					
	B2	9.77	10.21					
	B3	10.11	10.55					
HZU11	B	10.44	11.56	5	2	8.0	30	5
	B1	10.44	10.88					
	B2	10.76	11.22					
	B3	11.10	11.56					
HZU12	B	11.42	12.60	5	2	9.0	35	5
	B1	11.42	11.90					
	B2	11.74	12.24					
	B3	12.08	12.60					
HZU13	B	12.47	13.96	5	2	10.0	35	5
	B1	12.47	13.03					
	B2	12.91	13.49					
	B3	13.37	13.96					
HZU15	B	13.84	15.52	5	2	11.0	40	5
	B1	13.84	14.46					
	B2	14.34	14.98					
	B3	14.85	15.52					
HZU16	B	15.37	17.09	5	2	12.0	40	5
	B1	15.37	16.01					
	B2	15.58	16.51					
	B3	16.35	17.09					
HZU18	B	16.94	19.03	5	2	13.0	45	5
	B1	16.94	17.70					
	B2	17.56	18.35					
	B3	18.21	19.03					

Note: 1. Tested with pulse ( $P_w = 40$  ms)

Type	Grade	Zener Voltage		Test Condition	Reverse Current		Dynamic Resistance	
		$V_Z (V)^{*1}$			$I_R (\infty A)$	Test Condition	$r_d (\Omega)$	Test Condition
		Min	Max	$I_Z (mA)$	Max	$V_R (V)$	Max	$I_Z (mA)$
HZU20	B	18.86	21.08	5	2	15.0	50	5
	B1	18.86	19.70					
	B2	19.52	20.39					
	B3	20.21	21.08					
HZU22	B	20.88	23.17	5	2	17.0	55	5
	B1	20.88	21.77					
	B2	21.54	22.47					
	B3	22.23	23.17					
HZU24	B	22.93	25.57	5	2	19.0	60	5
	B1	22.93	23.96					
	B2	23.72	24.78					
	B3	24.54	25.57					
HZU27	B	25.10	28.90	2	2	21.0	70	2
HZU30	B	28.00	32.00	2	2	23.0	80	2
HZU33	B	31.00	35.00	2	2	25.0	80	2
HZU36	B	34.00	38.00	2	2	27.0	90	2

Note: 1. Tested with pulse ( $P_W = 40$  ms).

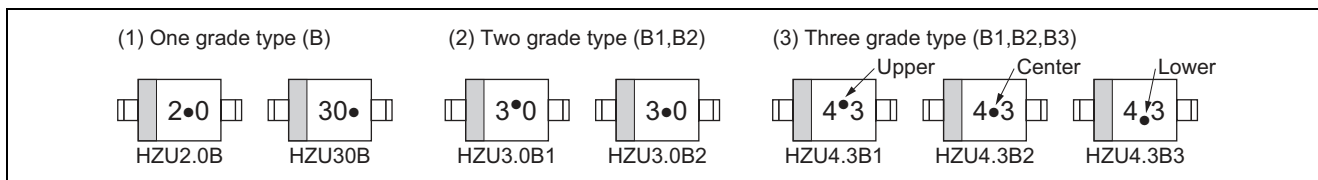
Mark Code

Type	Grade	Mark No.
HZU2.0	B	2 · 0
HZU2.2	B	2 · 2
HZU2.4	B	2 · 4
HZU2.7	B1	2 · 7
	B2	2 · 7
HZU3.0	B1	3 · 0
	B2	3 · 0
HZU3.3	B1	3 · 3
	B2	3 · 3
HZU3.6	B1	3 · 6
	B2	3 · 6
HZU3.9	B1	3 · 9
	B2	3 · 9
HZU4.3	B1	4 · 3
	B2	4 · 3
	B3	4 · 3
HZU4.7	B1	4 · 7
	B2	4 · 7
	B3	4 · 7
HZU5.1	B1	5 · 1
	B2	5 · 1
	B3	5 · 1
HZU5.6	B1	5 · 6
	B2	5 · 6
	B3	5 · 6

Type	Grade	Mark No.
HZU6.2	B1	6 · 2
	B2	6 · 2
	B3	6 · 2
HZU6.8	B1	6 · 8
	B2	6 · 8
	B3	6 · 8
HZU7.5	B1	7 · 5
	B2	7 · 5
	B3	7 · 5
HZU8.2	B1	8 · 2
	B2	8 · 2
	B3	8 · 2
HZU9.1	B1	9 · 1
	B2	9 · 1
	B3	9 · 1
HZU10	B1	1 0 ·
	B2	1 0 ·
	B3	1 0 ·
HZU11	B1	1 1 ·
	B2	1 1 ·
	B3	1 1 ·
HZU12	B1	1 2 ·
	B2	1 2 ·
	B3	1 2 ·

Type	Grade	Mark No.
HZU13	B1	1 3 ·
	B2	1 3 ·
	B3	1 3 ·
HZU15	B1	1 5 ·
	B2	1 5 ·
	B3	1 5 ·
HZU16	B1	1 6 ·
	B2	1 6 ·
	B3	1 6 ·
HZU18	B1	1 8 ·
	B2	1 8 ·
	B3	1 8 ·
HZU20	B1	2 0 ·
	B2	2 0 ·
	B3	2 0 ·
HZU22	B1	2 2 ·
	B2	2 2 ·
	B3	2 2 ·
HZU24	B1	2 4 ·
	B2	2 4 ·
	B3	2 4 ·
HZU27	B	2 7 ·
HZU30	B	3 0 ·
HZU33	B	3 3 ·
HZU36	B	3 6 ·

Notes: 1. Example of Marking



2. The grade B type includes from B1 min. to B3 (or B2) max.
3. B grade is standard and has better delivery, these are marked one of B1, B2, B3.
4. Type No. is as follows; HZU2.0B, HZU2.2B, ... HZU36B. (B grade)
5. Type No. is as follows; HZU2.7B1, HZU2.7B2, ... HZU24B3. (B 1, B2, B3 grade)

Main Characteristic

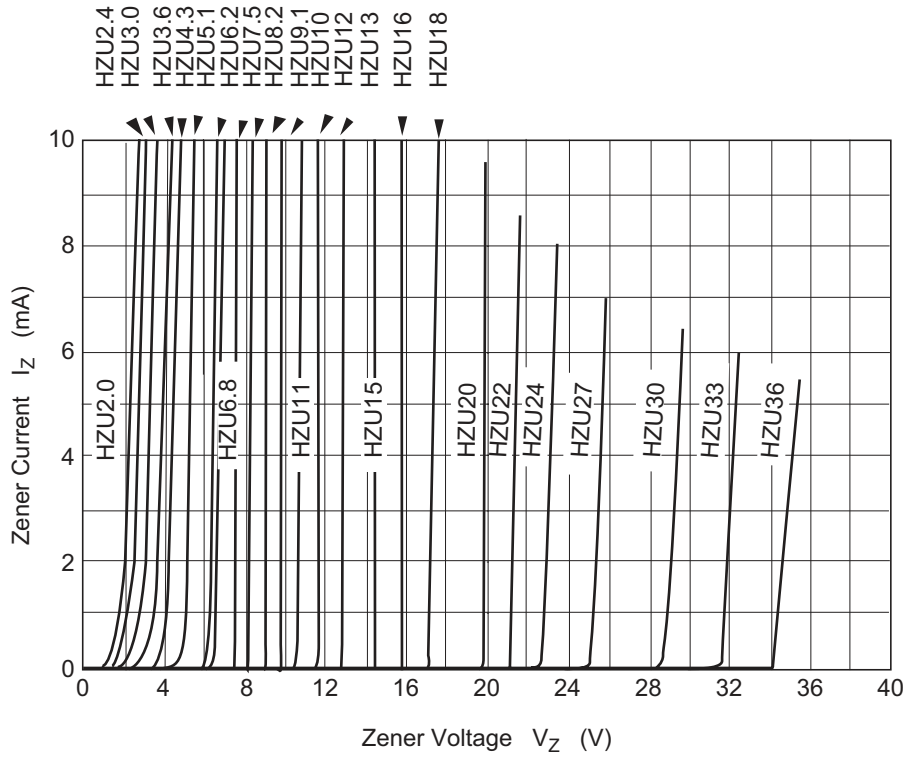


Fig.1 Zener current vs. Zener voltage

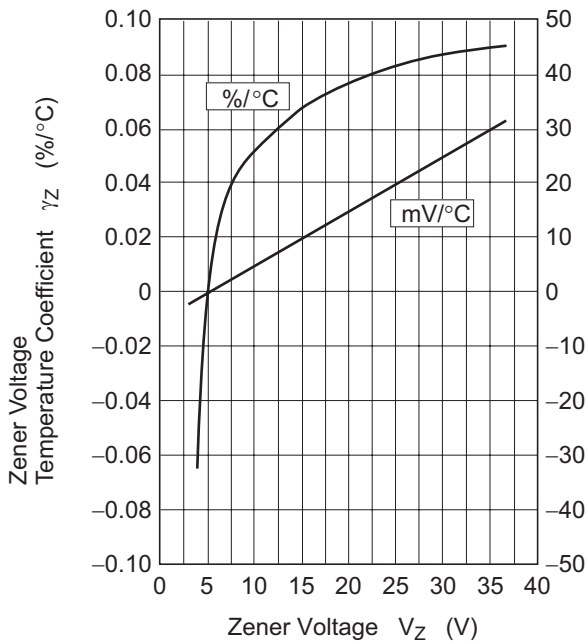


Fig.2 Temperature Coefficient vs. Zener voltage

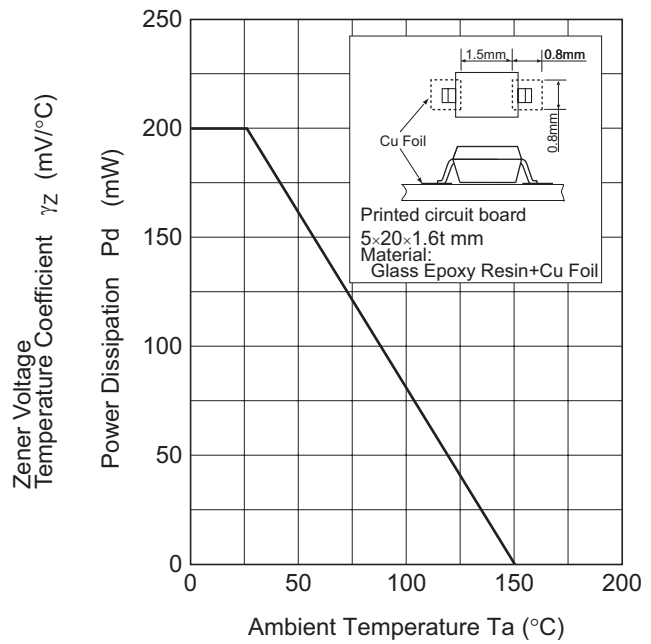
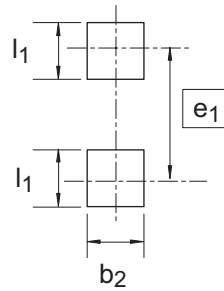
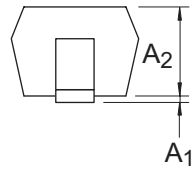
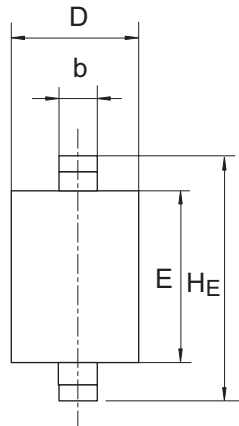


Fig.3 Power Dissipation vs. Ambient Temperature

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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