HZU Series

Silicon Planar Zener Diode for Stabilizer

R07DS0423EJ1000
Rev.10.00
Jun 06, 2011

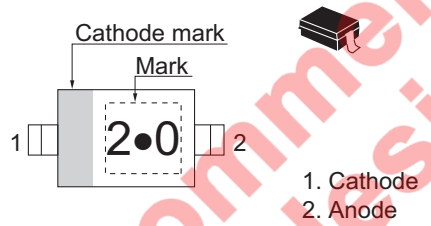
Features

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

Ordering Information

Part No	Laser Mark	Package Name	Package Code	Taping Abbreviation (Quantity)
HZU Series TRF	Let to Mark Code	URP	STSP0002ZA-A	TRF (3,000pcs / reel)

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. See Fig. 3.

Electrical Characteristics

(Ta = 25°C)

Type	Grade	Zener Voltage			Reverse Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (µA)	Test Condition	r_d (Ω)	Test Condition
		Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (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	B1	2.50	2.75	5	120	1.0	110	5
	B2	2.65	2.90					
HZU3.0	B1	2.80	3.05	5	50	1.0	120	5
	B2	2.95	3.20					
HZU3.3	B1	3.10	3.35	5	20	1.0	130	5
	B2	3.25	3.50					
HZU3.6	B1	3.40	3.65	5	10	1.0	130	5
	B2	3.55	3.80					
HZU3.9	B1	3.70	3.97	5	10	1.0	130	5
	B2	3.87	4.10					
HZU4.3	B1	4.01	4.21	5	10	1.0	130	5
	B2	4.15	4.34					
	B3	4.28	4.48					
HZU4.7	B1	4.42	4.61	5	10	1.0	130	5
	B2	4.55	4.75					
	B3	4.69	4.90					
HZU5.1	B1	4.84	5.04	5	5	1.5	130	5
	B2	4.98	5.20					
	B3	5.14	5.37					
HZU5.6	B1	5.31	5.55	5	5	2.5	80	5
	B2	5.49	5.73					
	B3	5.67	5.92					
HZU6.2	B1	5.86	6.12	5	2	3.0	50	5
	B2	6.06	6.33					
	B3	6.26	6.53					
HZU6.8	B1	6.47	6.73	5	2	3.5	30	5
	B2	6.65	6.93					
	B3	6.86	7.14					
HZU7.5	B1	7.06	7.36	5	2	4.0	30	5
	B2	7.28	7.60					
	B3	7.52	7.84					

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

Type	Grade	Zener Voltage			Reverse Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition
		Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)
HZU8.2	B1	7.76	8.10	5	2	5.0	30	5
	B2	8.02	8.36					
	B3	8.28	8.64					
HZU9.1	B1	8.56	8.93	5	2	6.0	30	5
	B2	8.85	9.23					
	B3	9.15	9.55					
HZU10	B1	9.45	9.87	5	2	7.0	30	5
	B2	9.77	10.21					
	B3	10.11	10.55					
HZU11	B1	10.44	10.88	5	2	8.0	30	5
	B2	10.76	11.22					
	B3	11.10	11.56					
HZU12	B1	11.42	11.90	5	2	9.0	35	5
	B2	11.74	12.24					
	B3	12.08	12.60					
HZU13	B1	12.47	13.03	5	2	10.0	35	5
	B2	12.91	13.49					
	B3	13.37	13.96					
HZU15	B1	13.84	14.46	5	2	11.0	40	5
	B2	14.34	14.98					
	B3	14.85	15.52					
HZU16	B1	15.37	16.01	5	2	12.0	40	5
	B2	15.58	16.51					
	B3	16.35	17.09					
HZU18	B1	16.94	17.70	5	2	13.0	45	5
	B2	17.56	18.35					
	B3	18.21	19.03					
HZU20	B1	18.86	19.70	5	2	15.0	50	5
	B2	19.52	20.39					
	B3	20.21	21.08					
HZU22	B1	20.88	21.77	5	2	17.0	55	5
	B2	21.54	22.47					
	B3	22.23	23.17					
HZU24	B1	22.93	23.96	5	2	19.0	60	5
	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

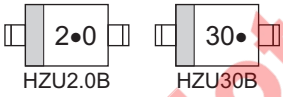
Type	Grade	Mark No.
HZU2.0	B	2 · 0
HZU2.2	B	2 · 2
HZU2.4	B	2 · 4
HZU2.7	B1	2 · 7
	B2	2 · 7
HZU3.0	B1	3 · 0
	B2	3 · 0
HZU3.3	B1	3 · 3
	B2	3 · 3
HZU3.6	B1	3 · 6
	B2	3 · 6
HZU3.9	B1	3 · 9
	B2	3 · 9
HZU4.3	B1	4 · 3
	B2	4 · 3
	B3	4 · 3
HZU4.7	B1	4 · 7
	B2	4 · 7
	B3	4 · 7
HZU5.1	B1	5 · 1
	B2	5 · 1
	B3	5 ·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

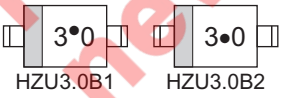
Notes: 1. Example of Marking

(1) One grade type (B)



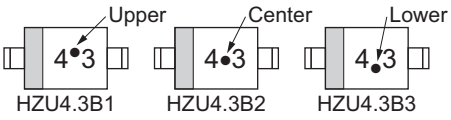
HZU2.0B HZU30B

(2) Two grade type (B1,B2)



HZU3.0B1 HZU3.0B2

(3) Three grade type (B1,B2,B3)



HZU4.3B1 HZU4.3B2 HZU4.3B3

2. Type No. is as follows; HZU2.0B, HZU2.2B, ••• HZU36B. (B grade)
3. Type No. is as follows; HZU2.7B1, HZU2.7B2, ••• HZU24B3. (B 1, B2, B3 grade)

Main Characteristics

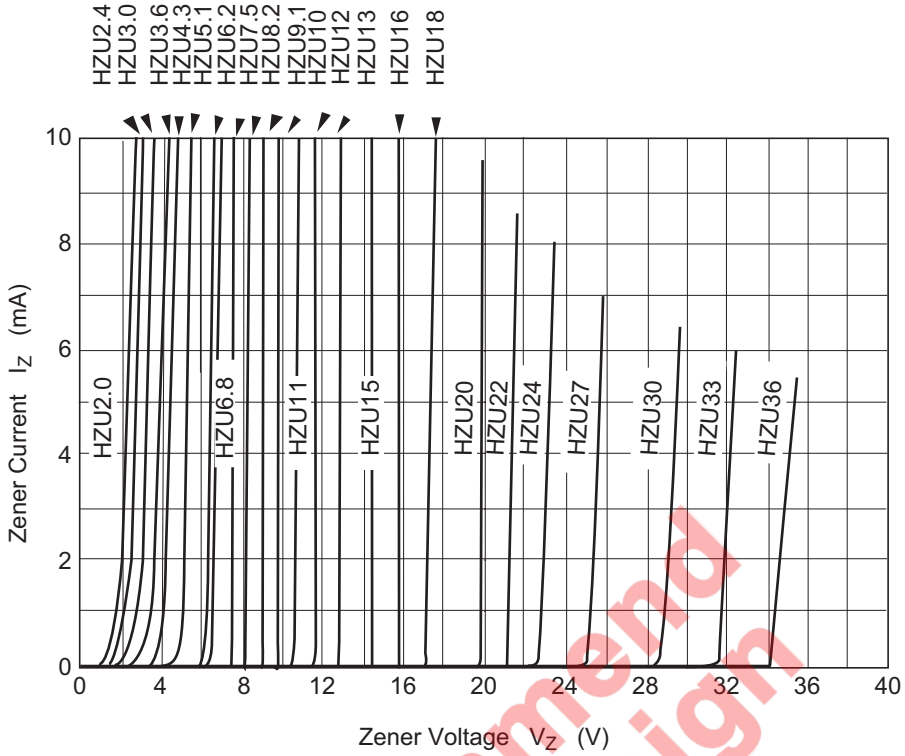


Fig.1 Zener current vs. Zener voltage

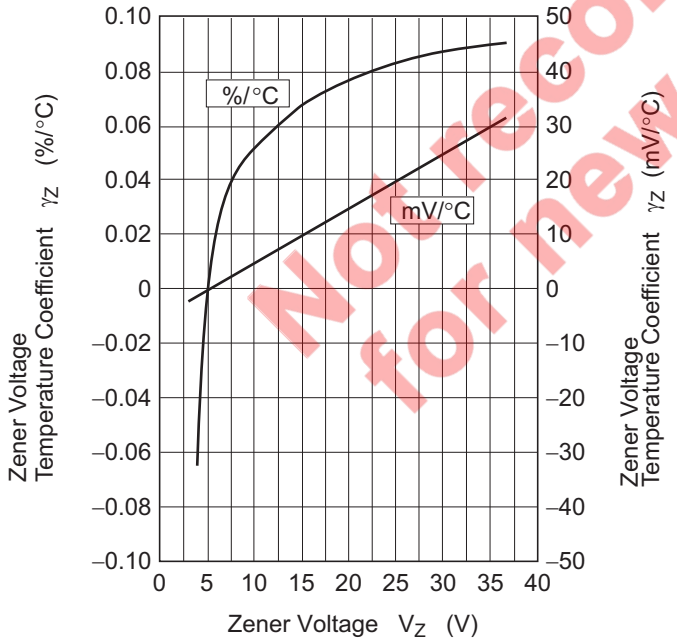


Fig.2 Temperature Coefficient vs. Zener voltage

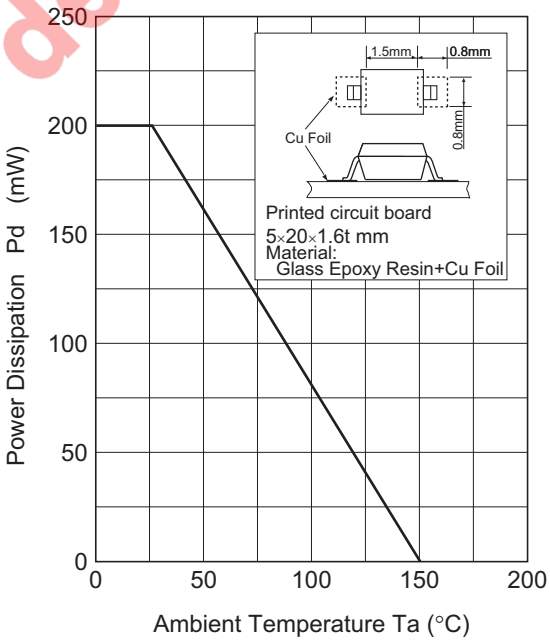
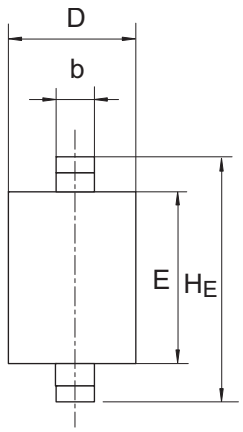
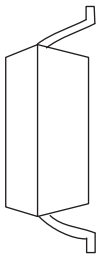


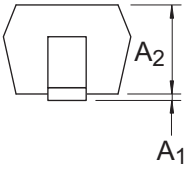
Fig.3 Power Dissipation vs. Ambient Temperature

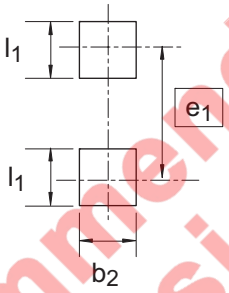
Package Dimensions

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_1	0	-	0.1
A_2	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_E	2.35	2.50	2.65
b_2	-	0.80	-
e_1	-	2.30	-
l_1	-	0.80	-

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