

# HZU Series Silicon Epitaxial Planar Zener Diode for Stabilizer

# HITACHI

Rev. 3  
Aug. 1995

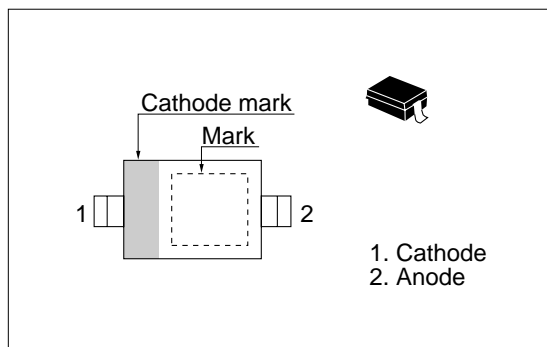
### Features

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

### Ordering Information

Type No.	Laser Mark	Package Code
HZU Series	Let to Mark Code	URP

### Outline



### Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	$P_d^*$	200	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

\* With P.C. Board.

### Electrical Characteristics (Ta = 25°C)

Type	Grade	Zener Voltage		Test Condition $I_Z$ (mA)	Reverse Current		Dynamic Resistance	
		$V_Z$ (V)			$I_R$ (μA)	Test Condition $V_R$ (V)	$r_d$ (Ω)	Test Condition $I_Z$ (mA)
		Min	Max		Max		Max	
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					

\* Tested with pulse ( $P_W=40ms$ )

## HZU Series

Type	Grade	Zener Voltage			Test Condition $I_Z$ (mA)	Reverse Current		Dynamic Resistance	
		$V_Z$ (V)		$I_R$ ( $\mu$ A) Max		Test Condition $V_R$ (V)	$r_d$ ( $\Omega$ ) Max	Test Condition $I_Z$ (mA)	
		Min	Max						
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						
HZU8.2	B1	7.76	8.10	5	2	5.0	30	5	
	B2	8.02	8.36						
	B3	8.28	8.64						

\* Tested with pulse ( $P_W=40$ ms)

Type	Grade	Zener Voltage		Test Condition $I_Z$ (mA)	Reverse Current		Dynamic Resistance	
		$V_Z$ (V)			$I_R$ ( $\mu$ A)	Test Condition $V_R$ (V)	$r_d$ ( $\Omega$ )	Test Condition $I_Z$ (mA)
		Min	Max		Max		Max	
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	15.85	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					

\* Tested with pulse ( $P_W=40$ ms)

## HZU Series

Type	Grade	Zener Voltage			Reverse Current		Dynamic Resistance	
		$V_Z$ (V)		Test Condition	$I_R$ ( $\mu$ A)	Test Condition	$r_d$ ( $\Omega$ )	Test Condition
		Min	Max	$I_Z$ (mA)	Max	$V_R$ (V)	Max	$I_Z$ (mA)
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

\* Tested with pulse ( $P_W=40$ ms)

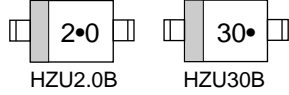
### MARK CODE

Type	Grade	MARK No.	Type	Grade	MARK No.	Type	Grade	MARK No.
HZU2.0	B	2•0	HZU7.5	B1	7•5	HZU20	B1	20•
HZU2.2	B	2•2		B2	7•5		B2	20•
HZU2.4	B	2•4		B3	7.5		B3	20.
HZU2.7	B1	2•7	HZU8.2	B1	8•2	HZU22	B1	22•
	B2	2•7		B2	8•2		B2	22•
HZU3.0	B1	3•0		B3	8.2		B3	22.
	B2	3•0	HZU9.1	B1	9•1	HZU24	B1	24•
HZU3.3	B1	3•3		B2	9•1		B2	24•
	B2	3•3		B3	9.1		B3	24.
HZU3.6	B1	3•6	HZU10	B1	10•	HZU27	B	27•
	B2	3•6		B2	10•	HZU30	B	30•
HZU3.9	B1	3•9		B3	10.	HZU33	B	33•
	B2	3•9	HZU11	B1	11•	HZU36	B	36•
HZU4.3	B1	4•3		B2	11•			
	B2	4•3		B3	11.			
	B3	4.3	HZU12	B1	12•			
HZU4.7	B1	4•7		B2	12•			
	B2	4•7		B3	12.			
	B3	4.7	HZU13	B1	13•			
HZU5.1	B1	5•1		B2	13•			
	B2	5•1		B3	13.			
	B3	5.1	HZU15	B1	15•			
HZU5.6	B1	5•6		B2	15•			
	B2	5•6		B3	15.			
	B3	5.6	HZU16	B1	16•			
HZU6.2	B1	6•2		B2	16•			
	B2	6•2		B3	16.			
	B3	6.2	HZU18	B1	18•			
HZU6.8	B1	6•8		B2	18•			
	B2	6•8		B3	18.			
	B3	6.8						

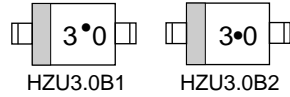
## HZU Series

### Example of Marking

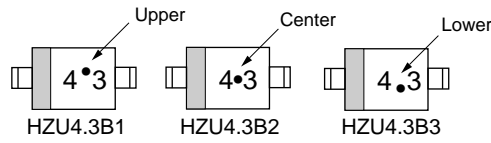
(1) One grade type ( grade type B )



(2) Two grade type ( B1, B2 )



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



Notes: 1. Ordering P/N HZU series are delivered taped (TLF/TRF).

Choose one taping code and adhere to parts No.

Example: HZU2.0BTLF(or TRF), HZU2.2BTLF(or TRF), HZU36BTLF(or TRF). (Grade B type)

HZU2.7B1TLF(or TRF), HZU2.7B2TLF(or TRF)••HZU24B3TLF(or TRF). (Grade B1, B2, B3 type)

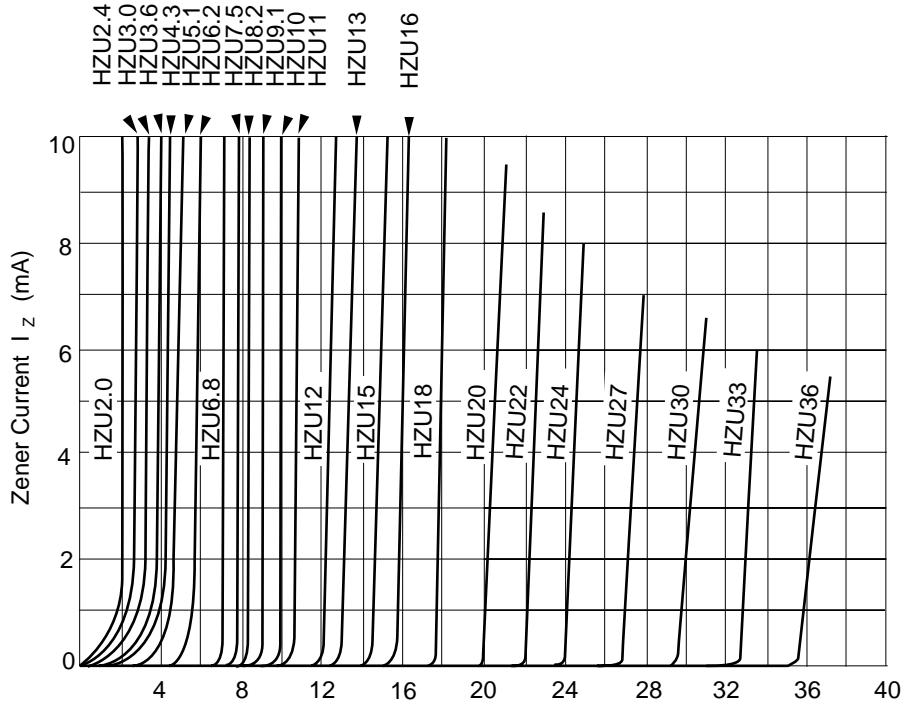
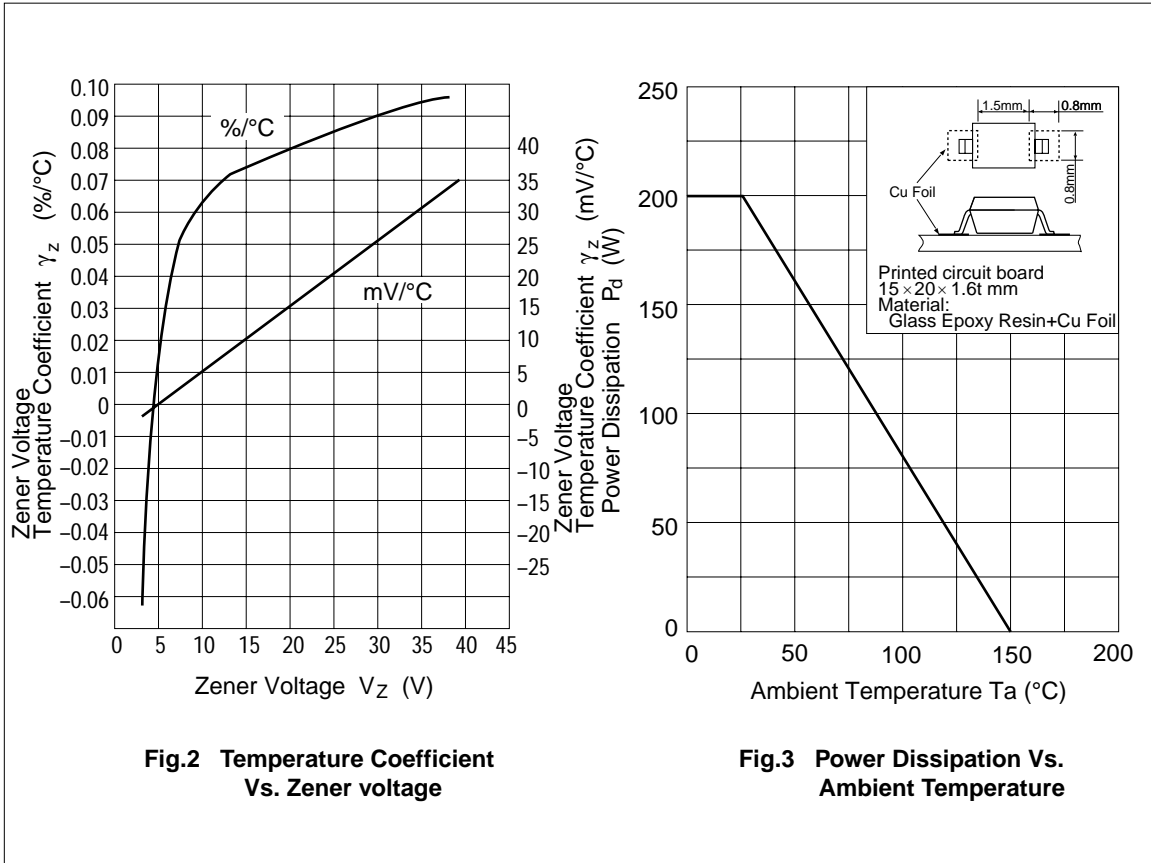


Fig.1 Zener current Vs. Zener voltage



### Package Dimensions

Unit: mm

