HZ-P Series

Silicon Epitaxial Planar Zener Diodes
for Voltage Controller & Voltage Limitter

HITACHI

ADE-208-123B(Z)
Rev 2
November 1996

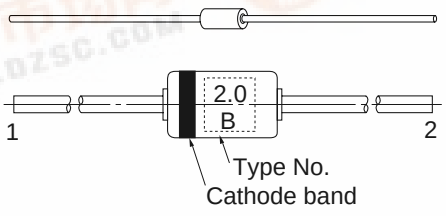
Features

- Wide spectrum from 1.88V through 40V of zener voltage provide flexible application.
- Glass package DO-41 structure ensures high reliability.

Ordering Information

Type No.	Mark	Package Code
HZ-P Series	Type No.	DO-41

Outline



1. Cathode
2. Anode

HZ-P Series

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd	0.8	W
Junction temperature	Tj	175	°C
Storage temperature	Tstg	-55 to +175	°C

Electrical Characteristics (Ta = 25°C)

		Zener Voltage			Reverese Current		Dynamic Resistance	
		VZ (V)*1		Test Condition	IR (μA)	Test Condition	rd (Ω)	Test Condition
Type	Grade	Min	Max	IZ (mA)	Max	VR (V)	Max	IZ (mA)
HZ2.0	BP	1.88	2.12	40	200	0.5	25	40
	CP	2.00	2.24					
HZ2.2	BP	2.08	2.33	40	200	0.7	20	40
	CP	2.20	2.45					
HZ2.4	BP	2.28	2.56	40	200	1.0	15	40
	CP	2.40	2.70					
HZ2.7	BP	2.5	2.9	40	200	1.0	15	40
	CP	2.7	3.1					
HZ3.0	BP	2.8	3.2	40	100	1.0	15	40
	CP	3.0	3.4					
HZ3.3	BP	3.1	3.5	40	80	1.0	15	40
	CP	3.3	3.7					
HZ3.6	BP	3.4	3.8	40	60	1.0	15	40
	CP	3.6	4.0					
HZ3.9	BP	3.7	4.1	40	40	1.0	15	40
	CP	3.9	4.4					
HZ4.3	BP	4.0	4.5	40	20	1.0	15	40
	CP	4.3	4.8					
HZ4.7	BP	4.4	4.9	40	20	1.0	10	40
	CP	4.7	5.2					
HZ5.1	BP	4.8	5.4	40	20	1.0	8	40
	CP	5.1	5.7					

Note: 1. Tested with DC.

		Zener Voltage			Reverese Current		Dynamic Resistance	
		VZ (V)*1		Test Condition	IR (μA)	Test Condition	rd (Ω)	Test Condition
Type	Grade	Min	Max	IZ (mA)	Max	VR (V)	Max	IZ (mA)
HZ5.6	BP	5.3	6.0	40	20	1.5	8	40
	CP	5.6	6.3					
HZ6.2	BP	5.8	6.6	40	20	3.0	6	40
	CP	6.2	7.0					
HZ6.8	BP	6.4	7.2	40	20	3.5	6	40
	CP	6.8	7.7					
HZ7.5	BP	7.0	7.9	40	20	4.0	4	40
	CP	7.5	8.4					
HZ8.2	BP	7.7	8.7	40	20	5.0	4	40
	CP	8.2	9.3					
HZ9.1	BP	8.5	9.6	40	20	6.0	6	40
	CP	9.1	10.2					
HZ10	BP	9.4	10.6	40	10	7.0	6	40
	CP	10.0	11.2					
HZ11	BP	10.4	11.6	20	10	8.0	8	20
	CP	11.0	12.3					
HZ12	BP	11.4	12.6	20	10	9.0	8	20
	CP	12.0	13.5					
HZ13	BP	12.4	14.1	20	10	10.0	10	20
	CP	13.3	15.0					
HZ15	BP	13.8	15.6	20	10	11.0	10	20
	CP	14.7	16.5					
HZ16	BP	15.3	17.1	20	10	12.0	12	20
	CP	16.2	18.3					
HZ18	BP	16.8	19.1	20	10	13.0	12	20
	CP	18.0	20.3					
HZ20	BP	18.8	21.2	20	10	15.0	14	20
	CP	20.0	22.4					
HZ22	BP	20.8	23.3	10	10	17.0	14	10
	CP	22.0	24.5					
HZ24	BP	22.8	25.6	10	10	19.0	16	10
	CP	24.0	27.6					

Note: 1. Tested with DC.

HZ-P Series

		Zener Voltage			Reverese Current		Dynamic Resistance	
		VZ (V)*1		Test Condition	IR (μA)	Test Condition	rd (Ω)	Test Condition
Type	Grade	Min	Max	IZ (mA)	Max	VR (V)	Max	IZ (mA)
HZ27	BP	25.1	28.9	10	10	21.0	16	10
	CP	27.0	30.8					
HZ30	BP	28.0	32.0	10	10	23.0	18	10
	CP	30.0	34.0					
HZ33	BP	31.0	35.0	10	10	25.0	18	10
	CP	33.0	37.0					
HZ36	BP	34.0	38.0	10	10	27.0	20	10
	CP	36.0	40.0					

Note: 1. Tested with DC.

Note: 2. Type No. is as follows; HZ2.0BP, HZ2.0CP, ••• HZ36BP, HZ36CP.

Main Characteristic

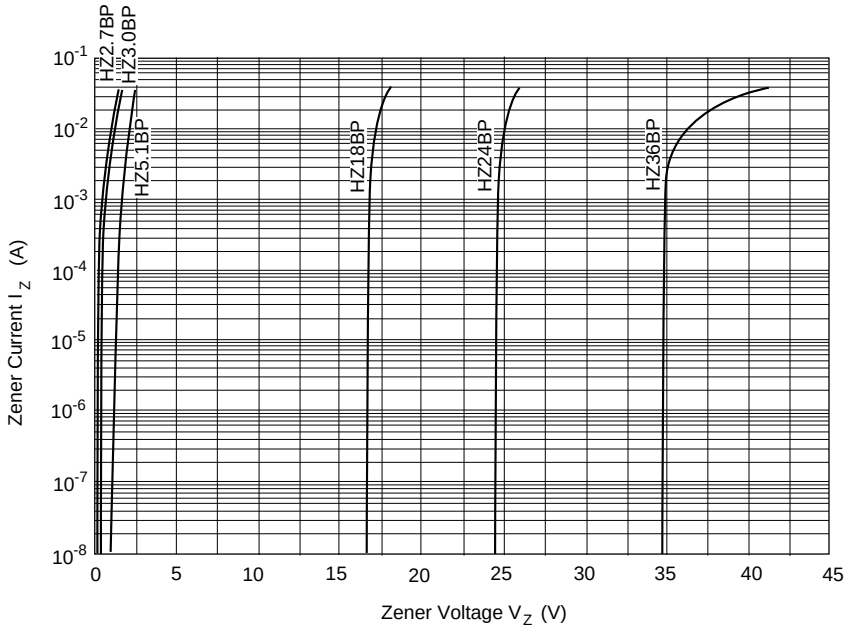


Fig.1 Zener current Vs. Zener voltage

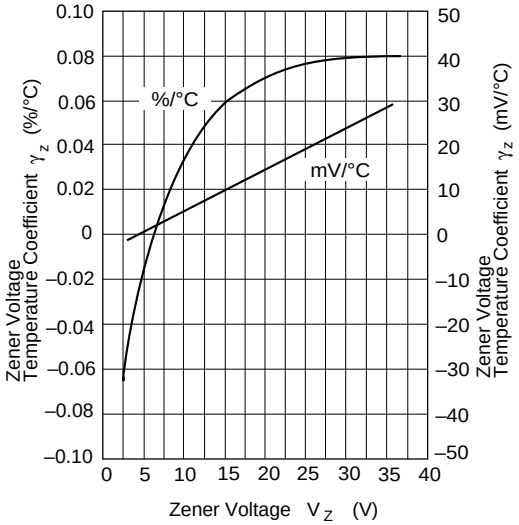


Fig.2 Temperature Coefficient Vs. Zener voltage

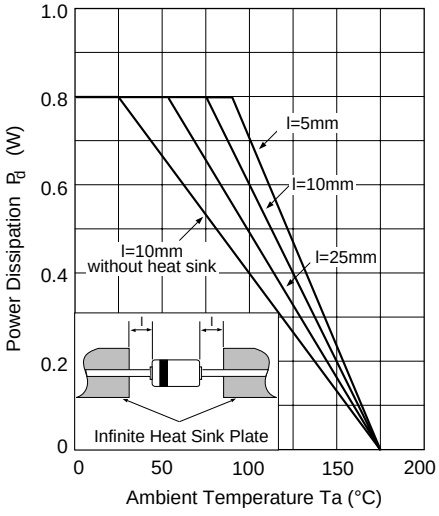


Fig.3 Power Dissipation Vs. Ambient Temperature

HZ-P Series

Main Characteristic

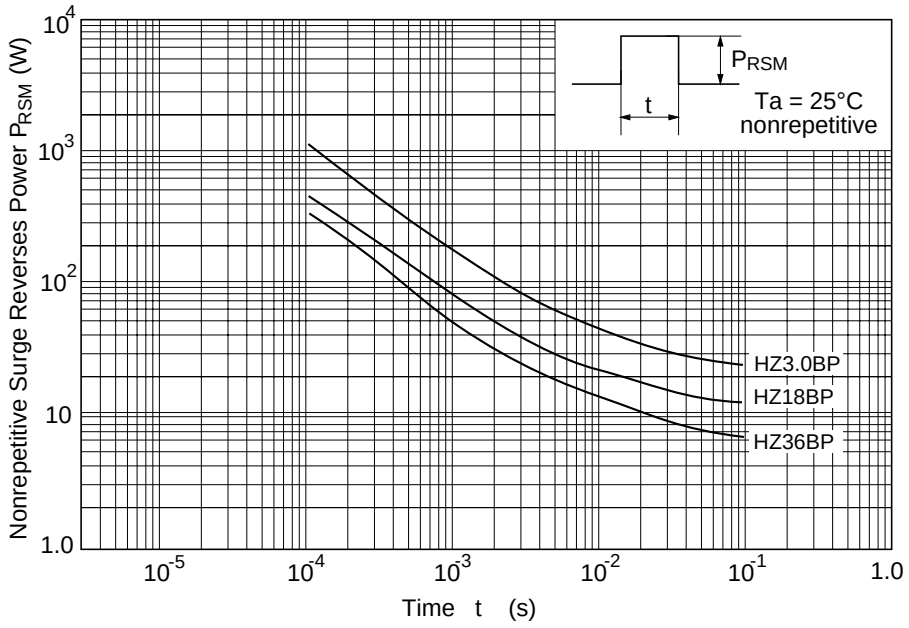


Fig.4 Surge Reverse Power Ratings

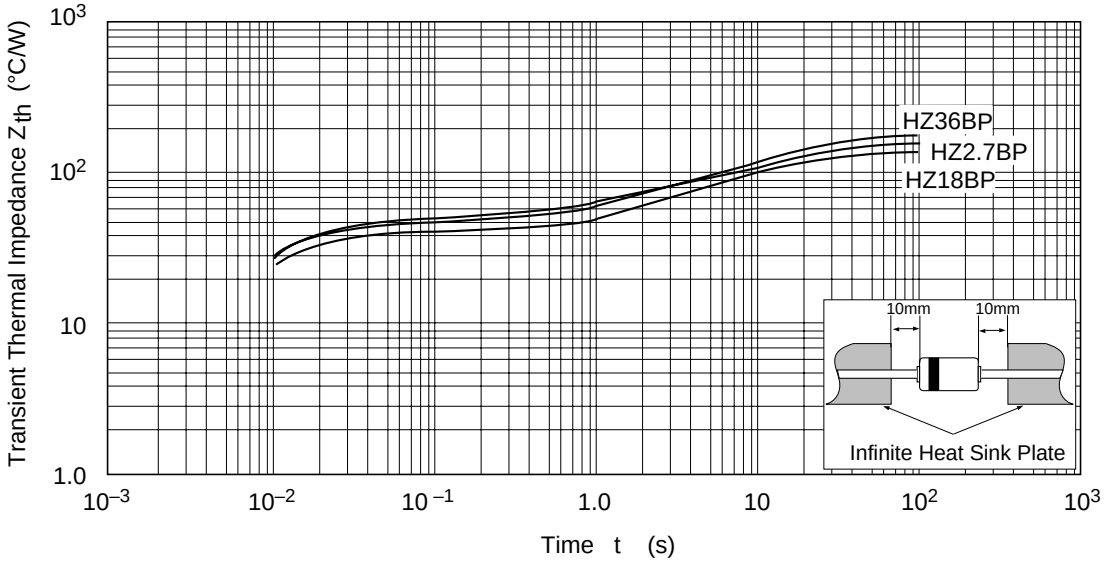
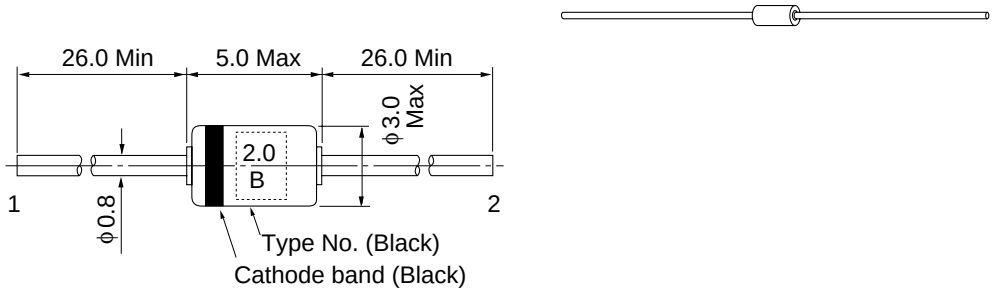
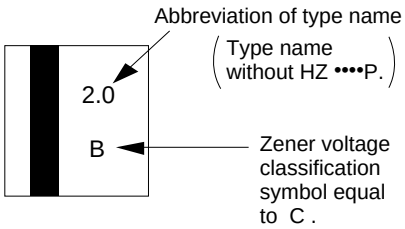


Fig.5 Transient Thermal Impedance

Package Dimensions

Unit : mm





Expanded drawing of marking

1. Cathode
2. Anode

Hitachi Code	*DO-41*
JEDECCode	*DO-41*
EIAJCode	*SC-47*
Weight(g)	0.38