HZS Series

Silicon Epitaxial Planar Zener Diode for Stabilized Power Supply

HITACHI

ADE-208-120A(Z)
Rev 1

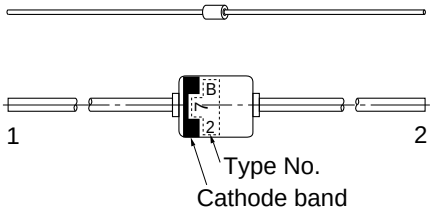
Features

- Low leakage, low zener impedance and maximum power dissipation of 400 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 1.5V through 38V of zener voltage provide flexible application.
- Suitable for 5mm-pitch high speed automatic insertion.

Ordering Information

Type No.	Mark	Package Code
HZS Series	Type No.	MHD

Outline



1. Cathode
2. Anode

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd	400	mW
Junction temperature	Tj	200	°C
Storage temperature	Tstg	-55 to +175	°C

Electrical Characteristics (Ta = 25°C)

		Zener Voltage			Reverese Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition
Type	Grade	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)
HZS1	C3	1.5	1.7	5	25	0.5	100	5
HZS2	A1	1.6	1.8	5	25	0.5	100	5
	A2	1.7	1.9					
	A3	1.8	2.0					
	B1	1.9	2.1	5	5	0.5	100	5
	B2	2.0	2.2					
	B3	2.1	2.3					
	C1	2.2	2.4					
	C2	2.3	2.5					
	C3	2.4	2.6					
HZS3	A1	2.5	2.7	5	5	0.5	100	5
	A2	2.6	2.8					
	A3	2.7	2.9					
	B1	2.8	3.0					
	B2	2.9	3.1					
	B3	3.0	3.2					
	C1	3.1	3.3					
	C2	3.2	3.4					
	C3	3.3	3.5					
HZS4	A1	3.4	3.6	5	5	1.0	100	5
	A2	3.5	3.7					
	A3	3.6	3.8					

Note: 1. Tested with DC.

		Zener Voltage			Reverese Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition
Type	Grade	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)
HZS4	B1	3.7	3.9	5	5	1.0	100	5
	B2	3.8	4.0					
	B3	3.9	4.1					
	C1	4.0	4.2					
	C2	4.1	4.3					
	C3	4.2	4.4					
HZS5	A1	4.3	4.5	5	5	1.5	100	5
	A2	4.4	4.6					
	A3	4.5	4.7					
	B1	4.6	4.8					
	B2	4.7	4.9					
	B3	4.8	5.0					
	C1	4.9	5.1					
	C2	5.0	5.2					
	C3	5.1	5.3					
HZS6	A1	5.2	5.5	5	5	2.0	40	5
	A2	5.3	5.6					
	A3	5.4	5.7					
	B1	5.5	5.8					
	B2	5.6	5.9					
	B3	5.7	6.0					
	C1	5.8	6.1					
	C2	6.0	6.3					
	C3	6.1	6.4					
HZS7	A1	6.3	6.6	5	1	3.5	15	5
	A2	6.4	6.7					
	A3	6.6	6.9					
	B1	6.7	7.0					
	B2	6.9	7.2					
	B3	7.0	7.3					

Note: 1. Tested with DC.

HZS Series

		Zener Voltage			Reverese Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition
Type	**Grade**	**Min**	**Max**	**I_Z (mA)**	**Max**	**V_R (V)**	**Max**	**I_Z (mA)**
HZS7	C1	7.2	7.6	5	1	3.5	15	5
	C2	7.3	7.7					
	C3	7.5	7.9					
HZS9	A1	7.7	8.1	5	1	5.0	20	5
	A2	7.9	8.3					
	A3	8.1	8.5					
	B1	8.3	8.7					
	B2	8.5	8.9					
	B3	8.7	9.1					
	C1	8.9	9.3					
	C2	9.1	9.5					
	C3	9.3	9.7					
HZS11	A1	9.5	9.9	5	1	7.5	25	5
	A2	9.7	10.1					
	A3	9.9	10.3					
	B1	10.2	10.6					
	B2	10.4	10.8					
	B3	10.7	11.1					
	C1	10.9	11.3					
	C2	11.1	11.6					
	C3	11.4	11.9					
HZS12	A1	11.6	12.1	5	1	9.5	35	5
	A2	11.9	12.4					
	A3	12.2	12.7					
	B1	12.4	12.9					
	B2	12.6	13.1					
	B3	12.9	13.4					
	C1	13.2	13.7					
	C2	13.5	14.0					
	C3	13.8	14.3					

Note: 1. Tested with DC.

		Zener Voltage			Reverese Current		Dynamic Resistance	
		V_Z (V)*[1]		Test Condition	I_R (μA)	Test Condition	r_d (Ω)	Test Condition
Type	Grade	Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)
HZS15	1	14.1	14.7	5	1	11.0	40	5
	2	14.5	15.1					
	3	14.9	15.5					
HZS16	1	15.3	15.9	5	1	12.0	45	5
	2	15.7	16.5					
	3	16.3	17.1					
HZS18	1	16.9	17.7	5	1	13.0	55	5
	2	17.5	18.3					
	3	18.1	19.0					
HZS20	1	18.8	19.7	2	1	15.0	60	2
	2	19.5	20.4					
	3	20.2	21.1					
HZS22	1	20.9	21.9	2	1	17.0	65	2
	2	21.6	22.6					
	3	22.3	23.3					
HZS24	1	22.9	24.0	2	1	19.0	70	2
	2	23.6	24.7					
	3	24.3	25.5					
HZS27	1	25.2	26.6	2	1	21.0	80	2
	2	26.2	27.6					
	3	27.2	28.6					
HZS30	1	28.2	29.6	2	1	23.0	100	2
	2	29.2	30.6					
	3	30.2	31.6					
HZS33	1	31.2	32.6	2	1	25.0	120	2
	2	32.2	33.6					
	3	33.2	34.6					
HZS36	1	34.2	35.7	2	1	27.0	140	2
	2	35.3	36.8					
	3	36.4	38.0					

Note: 1. Tested with DC.

Note: 2. Type No. is as follows; HZS2B1, HZS2B2, HZS36-3.

Main Characteristic

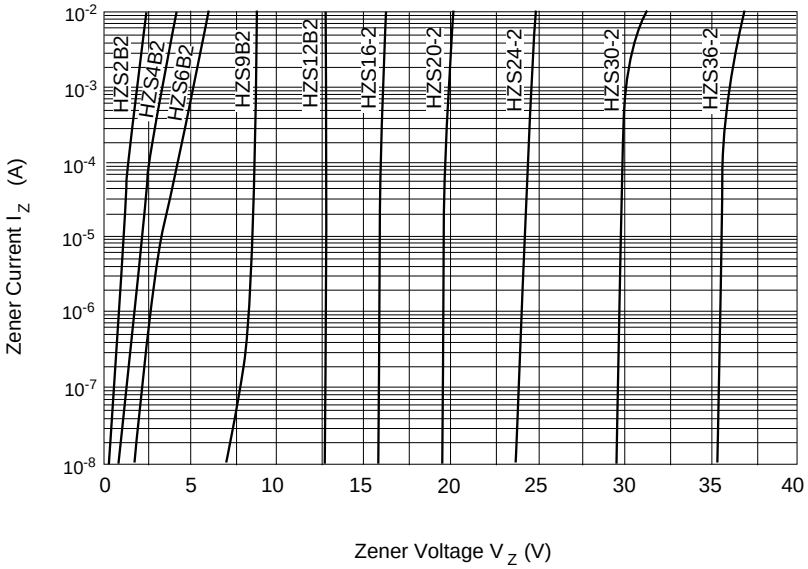


Fig.1 Zener current Vs. Zener voltage

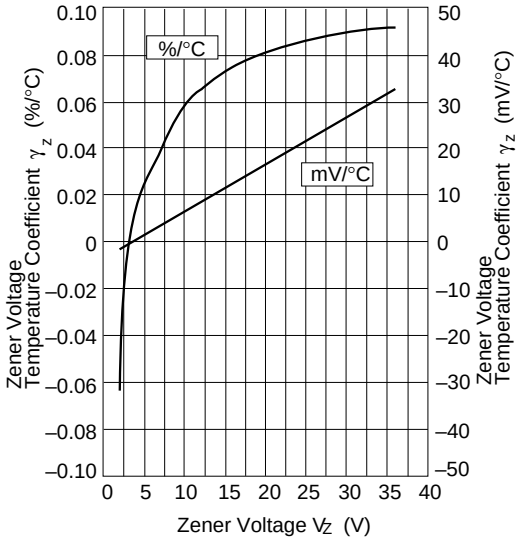


Fig.2 Temperature Coefficient Vs. Zener voltage

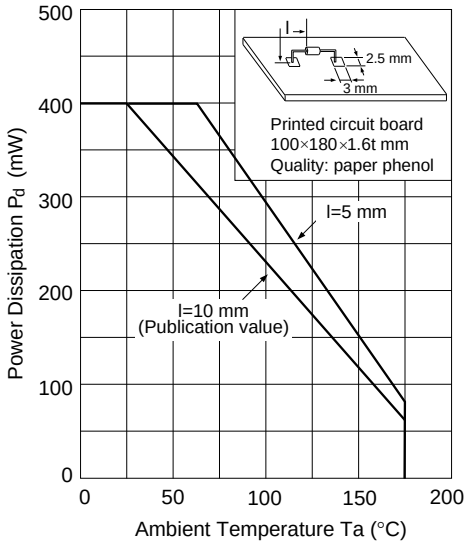


Fig.3 Power Dissipation Vs. Ambient Temperature