HZS-L Series

Silicon Epitaxial Planar Zener Diode for Low Noise Application

REJ03G0166-0200Z
(Previous: ADE-208-121A)
Rev.2.00
Jan.06.2004

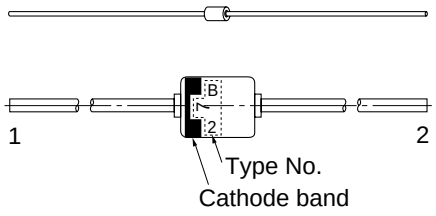
Features

- Diode noise level of this series is approximately 1/3-1/10 lower than the HZ series.
- Low leakage, low zener impedance and maximum power dissipation of 400 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 5.2V through 38V of zener voltage provide flexible application.
- Suitable for 5mm-pitch high speed automatic insertion.

Ordering Information

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

Pin Arrangement



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			Reverse 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)
HZS6L	A1	5.2	5.5	0.5	1	2.0	150	0.5
	A2	5.3	5.6					
	A3	5.4	5.7					
	B1	5.5	5.8				80	0.5
	B2	5.6	5.9					
	B3	5.7	6.0					
	C1	5.8	6.1				60	0.5
	C2	6.0	6.3					
	C3	6.1	6.4					
HZS7L	A1	6.3	6.6	0.5	1	3.5	60	0.5
	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					
	C1	7.2	7.6					
	C2	7.3	7.7					
	C3	7.5	7.9					

Note: 1. Tested with DC.

		Zener Voltage			Reverse 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)
HZS9L	A1	7.7	8.1	0.5	1	6.0	60	0.5
	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					
HZS11L	A1	9.5	9.9	0.5	1	8.0	80	0.5
	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					
HZS12L	A1	11.6	12.1	0.5	1	10.5	80	0.5
	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					
HZS15L	1	14.1	14.7	0.5	1	13.0	80	0.5
	2	14.5	15.1					
	3	14.9	15.5					
HZS16L	1	15.3	15.9	0.5	1	14.0	80	0.5
	2	15.7	16.5					
	3	16.3	17.1					

Note: 1. Tested with DC.

		Zener Voltage			Reverse 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)
HZS18L	1	16.9	17.7	0.5	1	15.0	80	0.5
	2	17.5	18.3					
	3	18.1	19.0					
HZS20L	1	18.8	19.7	0.5	1	18.0	100	0.5
	2	19.5	20.4					
	3	20.2	21.1					
HZS22L	1	20.9	21.9	0.5	1	20.0	100	0.5
	2	21.6	22.6					
	3	22.3	23.3					
HZS24L	1	22.9	24.0	0.5	1	22.0	120	0.5
	2	23.6	24.7					
	3	24.3	25.5					
HZS27L	1	25.2	26.6	0.5	1	24.0	150	0.5
	2	26.2	27.6					
	3	27.2	28.6					
HZS30L	1	28.2	29.6	0.5	1	27.0	200	0.5
	2	29.2	30.6					
	3	30.2	31.6					
HZS33L	1	31.2	32.6	0.5	1	30.0	250	0.5
	2	32.2	33.6					
	3	33.2	34.6					
HZS36L	1	34.2	35.7	0.5	1	33.0	300	0.5
	2	35.3	36.8					
	3	36.4	38.0					

Notes: 1. Tested with DC.
2. Type No. is as follows; HZS6A1L, HZS6A2L, HZS36-3L

Main Characteristic

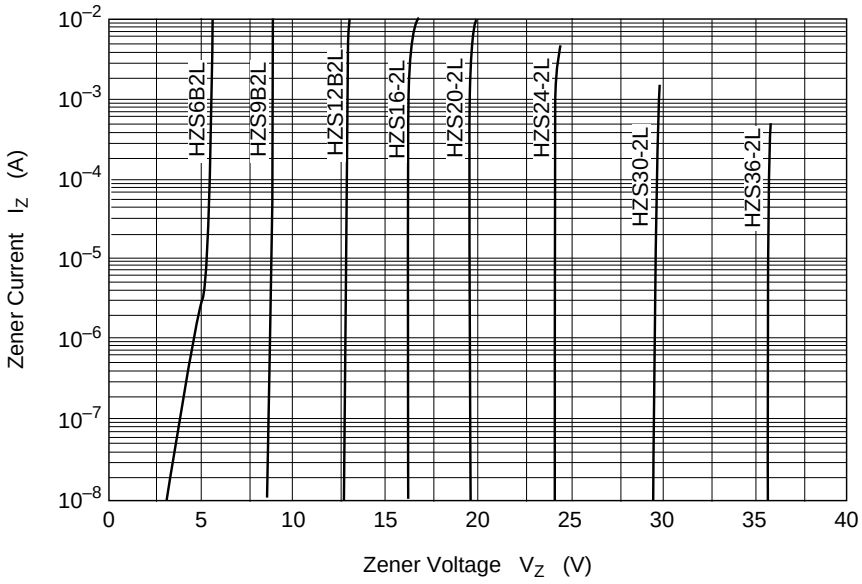


Fig.1 Zener current vs. Zener voltage

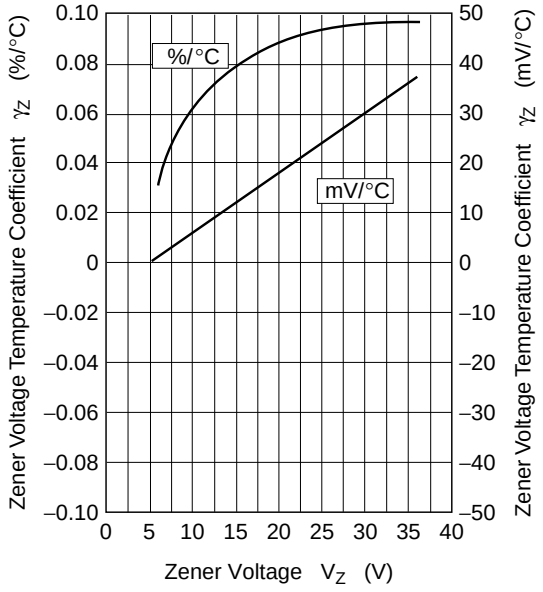


Fig.2 Temperature Coefficient vs. Zener voltage

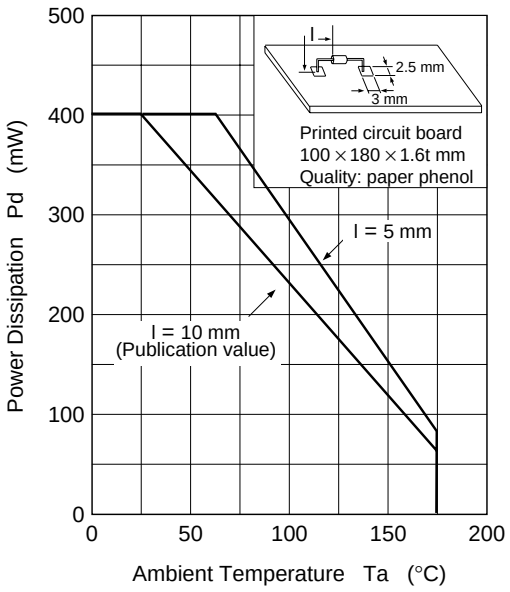
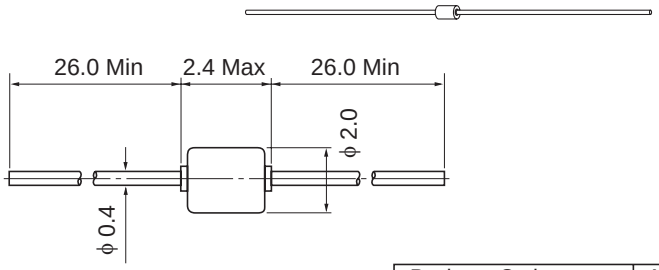


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of January, 2003

Unit: mm



Package Code	MHD
JEDEC	Conforms
JEITA	—
Mass (reference value)	0.084 g

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