

HZS-L Series

Silicon Epitaxial Planar Zener Diode for
Low Noise Application

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

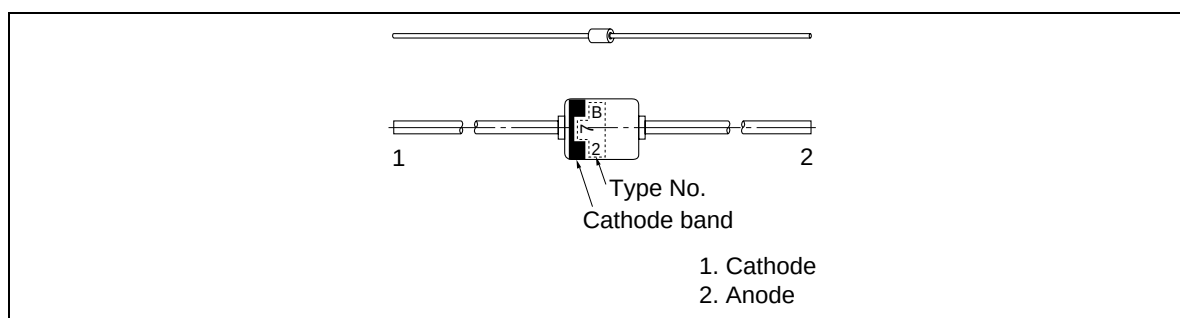
Features

- 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



HZS-L Series

Absolute Maximum Ratings

(T_a = 25°C)

Item	Symbol	Value	Unit
Power dissipation	P _d	400	mW
Junction temperature	T _j	200	°C
Storage temperature	T _{stg}	–55 to +175	°C

Electrical Characteristics

(T_a = 25°C)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance	
		V _Z (V)* ¹		Test Condition	I _R (μA)	Test Condition	r _d (Ω)
		Min	Max	I _Z (mA)	Max	V _R (V)	Max
HZS6L	A1	5.2	5.5	0.5	1	2.0	150
	A2	5.3	5.6				
	A3	5.4	5.7				
	B1	5.5	5.8				80
	B2	5.6	5.9				
	B3	5.7	6.0				
	C1	5.8	6.1				60
	C2	6.0	6.3				
	C3	6.1	6.4				
HZS7L	A1	6.3	6.6	0.5	1	3.5	60
	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.

HZS-L Series

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance	
		$V_Z (V)^{*1}$		Test Condition	$I_R (\mu A)$	Test Condition	$r_d (\Omega)$
		Min	Max	$I_Z (mA)$	Max	$V_R (V)$	Max
HZS9L	A1	7.7	8.1	0.5	1	6.0	60
	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
	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
	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
	2	14.5	15.1				
	3	14.9	15.5				
HZS16L	1	15.3	15.9	0.5	1	14.0	80
	2	15.7	16.5				
	3	16.3	17.1				

Note: 1. Tested with DC.

HZS-L Series

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance	
		$V_Z (V)^{*1}$		Test Condition	$I_R (\mu A)$	Test Condition	$r_d (\Omega)$
		Min	Max	$I_Z (mA)$	Max	$V_R (V)$	Max
HZS18L	1	16.9	17.7	0.5	1	15.0	80
	2	17.5	18.3				
	3	18.1	19.0				
HZS20L	1	18.8	19.7	0.5	1	18.0	100
	2	19.5	20.4				
	3	20.2	21.1				
HZS22L	1	20.9	21.9	0.5	1	20.0	100
	2	21.6	22.6				
	3	22.3	23.3				
HZS24L	1	22.9	24.0	0.5	1	22.0	120
	2	23.6	24.7				
	3	24.3	25.5				
HZS27L	1	25.2	26.6	0.5	1	24.0	150
	2	26.2	27.6				
	3	27.2	28.6				
HZS30L	1	28.2	29.6	0.5	1	27.0	200
	2	29.2	30.6				
	3	30.2	31.6				
HZS33L	1	31.2	32.6	0.5	1	30.0	250
	2	32.2	33.6				
	3	33.2	34.6				
HZS36L	1	34.2	35.7	0.5	1	33.0	300
	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

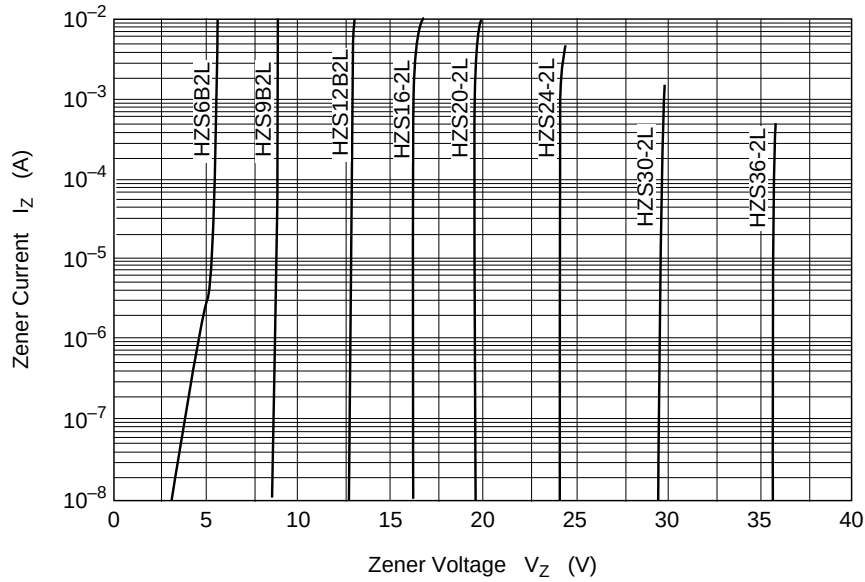


Fig.1 Zener current vs. Zener voltage

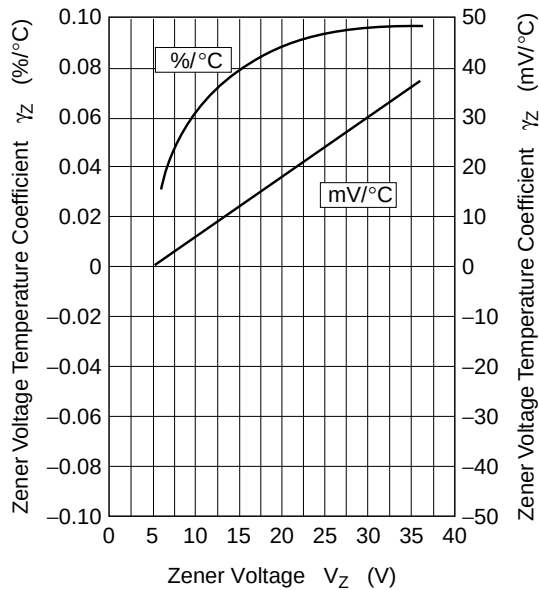


Fig.2 Temperature Coefficient vs. Zener voltage

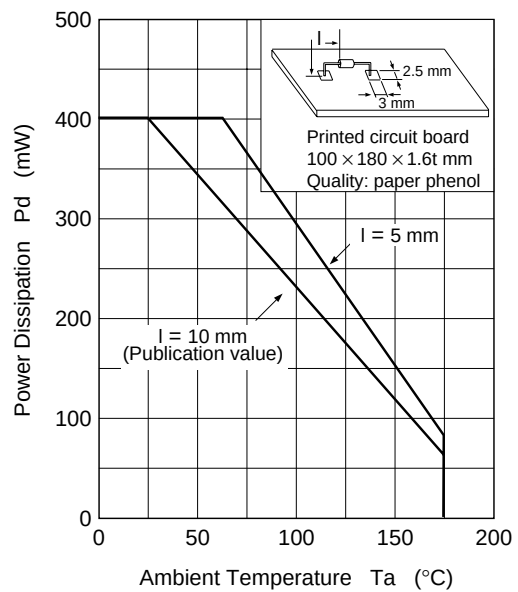
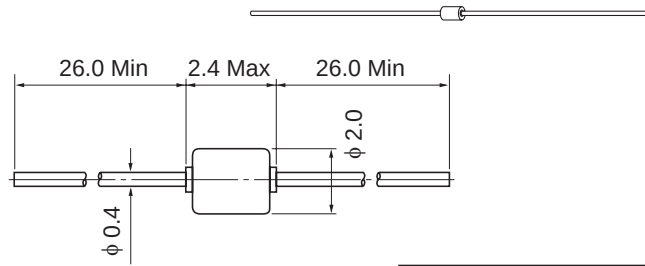


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

As of January, 2003

Unit: mm



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

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