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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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HZ-L Series

Silicon Planar Zener Diode for Low Noise Application

REJ03G0182-0300
 Rev.3.00
 Nov.06.2007

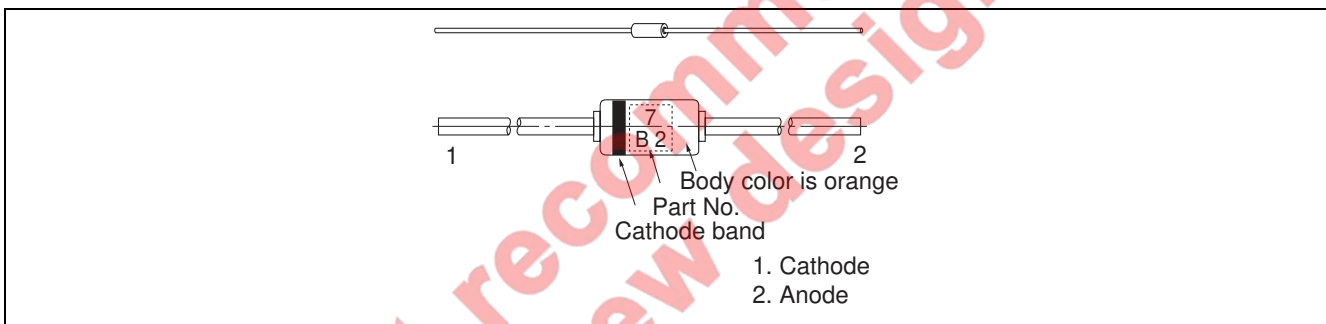
Features

- 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 voltage range from 5.2 V through 38 V of zener voltage provide flexible application.

Ordering Information

Part No.	Cathode Band	Package Name	Package Code
HZ-L Series	Navy blue	DO-35	GRZZ0002ZB-A

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

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

Electrical Characteristics

(Ta = 25°C)

Part No.	Zener Voltage		Test Condition	Reverse Current		Dynamic Resistance	
	V _Z (V) *1			I _R (μA)	Test Condition	r _d (Ω)	Test Condition
	Min	Max	I _Z (mA)	Max	V _R (V)	Max	I _Z (mA)
HZ6A1L	5.2	5.5	0.5	1	2.0	150	0.5
HZ6A2L	5.3	5.6					
HZ6A3L	5.4	5.7					
HZ6B1L	5.5	5.8	0.5	1	2.0	80	0.5
HZ6B2L	5.6	5.9					
HZ6B3L	5.7	6.0					
HZ6C1L	5.8	6.1	0.5	1	2.0	60	0.5
HZ6C2L	6.0	6.3					
HZ6C3L	6.1	6.4					
HZ7A1L	6.3	6.6	0.5	1	3.5	60	0.5
HZ7A2L	6.4	6.7					
HZ7A3L	6.6	6.9					
HZ7B1L	6.7	7.0	0.5	1	3.5	60	0.5
HZ7B2L	6.9	7.2					
HZ7B3L	7.0	7.3					
HZ7C1L	7.2	7.6	0.5	1	3.5	60	0.5
HZ7C2L	7.3	7.7					
HZ7C3L	7.5	7.9					
HZ9A1L	7.7	8.1	0.5	1	6.0	60	0.5
HZ9A2L	7.9	8.3					
HZ9A3L	8.1	8.5					
HZ9B1L	8.3	8.7	0.5	1	6.0	60	0.5
HZ9B2L	8.5	8.9					
HZ9B3L	8.7	9.1					
HZ9C1L	8.9	9.3	0.5	1	6.0	60	0.5
HZ9C2L	9.1	9.5					
HZ9C3L	9.3	9.7					
HZ11A1L	9.5	9.9	0.5	1	8.0	80	0.5
HZ11A2L	9.7	10.1					
HZ11A3L	9.9	10.3					
HZ11B1L	10.2	10.6	0.5	1	8.0	80	0.5
HZ11B2L	10.4	10.8					
HZ11B3L	10.7	11.1					
HZ11C1L	10.9	11.3	0.5	1	8.0	80	0.5
HZ11C2L	11.1	11.6					
HZ11C3L	11.4	11.9					

Note: 1. Tested with DC.

Part No.	Zener Voltage		Test Condition	Reverse Current		Dynamic Resistance	
	V _Z (V) *1			I _R (μA)	Test Condition	r _d (Ω)	Test Condition
	Min	Max	I _Z (mA)	Max	V _R (V)	Max	I _Z (mA)
HZ12A1L	11.6	12.1	0.5	1	10.5	80	0.5
HZ12A2L	11.9	12.4					
HZ12A3L	12.2	12.7					
HZ12B1L	12.4	12.9					
HZ12B2L	12.6	13.1					
HZ12B3L	12.9	13.4					
HZ12C1L	13.2	13.7					
HZ12C2L	13.5	14.0					
HZ12C3L	13.8	14.3					
HZ15-1L	14.1	14.7	0.5	1	13.0	80	0.5
HZ15-2L	14.5	15.1					
HZ15-3L	14.9	15.5					
HZ16-1L	15.3	15.9	0.5	1	14.0	80	0.5
HZ16-2L	15.7	16.5					
HZ16-3L	16.3	17.1					
HZ18-1L	16.9	17.7	0.5	1	15.0	80	0.5
HZ18-2L	17.5	18.3					
HZ18-3L	18.1	19.0					
HZ20-1L	18.8	19.7	0.5	1	18.0	100	0.5
HZ20-2L	19.5	20.4					
HZ20-3L	20.2	21.1					
HZ22-1L	20.9	21.9	0.5	1	20.0	100	0.5
HZ22-2L	21.6	22.6					
HZ22-3L	22.3	23.3					
HZ24-1L	22.9	24.0	0.5	1	22.0	120	0.5
HZ24-2L	23.6	24.7					
HZ24-3L	24.3	25.5					
HZ27-1L	25.2	26.6	0.5	1	24.0	150	0.5
HZ27-2L	26.2	27.6					
HZ27-3L	27.2	28.6					
HZ30-1L	28.2	29.6	0.5	1	27.0	200	0.5
HZ30-2L	29.2	30.6					
HZ30-3L	30.2	31.6					
HZ33-1L	31.2	32.6	0.5	1	30.0	250	0.5
HZ33-2L	32.2	33.6					
HZ33-3L	33.2	34.6					
HZ36-1L	34.2	35.7	0.5	1	33.0	300	0.5
HZ36-2L	35.3	36.8					
HZ36-3L	36.4	38.0					

Note: 1. Tested with DC.

Main Characteristic

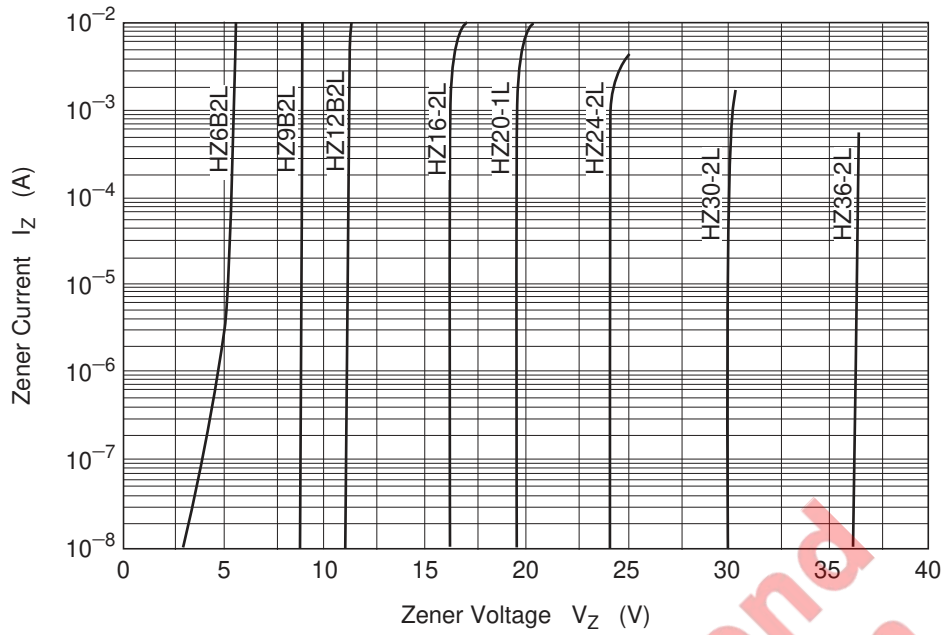


Fig.1 Zener current vs. Zener voltage

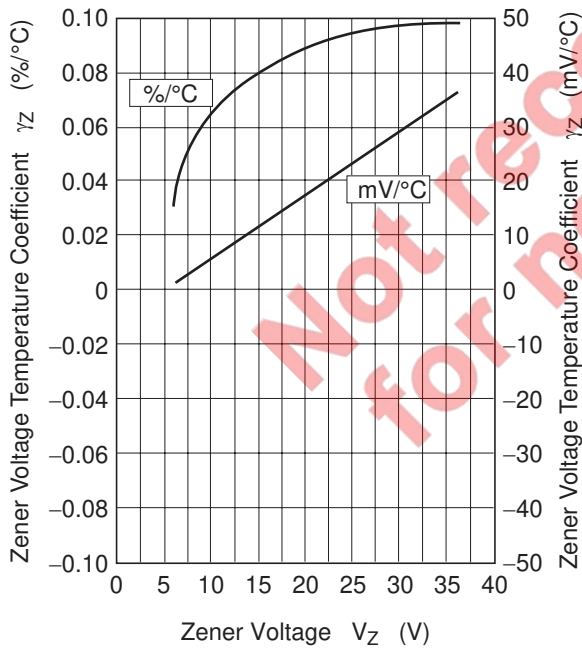


Fig.2 Temperature Coefficient vs. Zener voltage

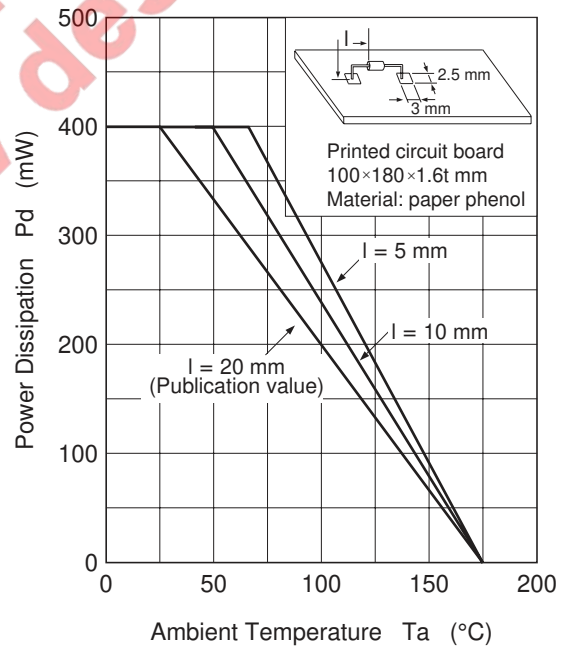
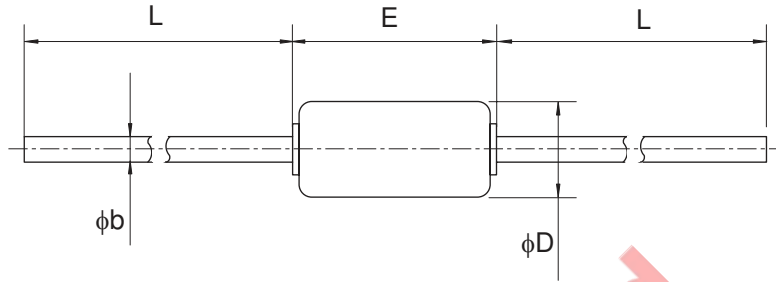


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
DO-35	SC-40	GRZZ0002ZB-A	DO-35 / DO-35V	0.13g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
phi b	-	0.5	-
phi D	-	2.0	-
E	-	-	4.2
L	26.0	-	-

Not recommend for new design

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