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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

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

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HZ(H) Series

Silicon Planar Zener Diode for Stabilized Power Supply

REJ03G0181-0200
Rev.2.00
Oct 29, 2007

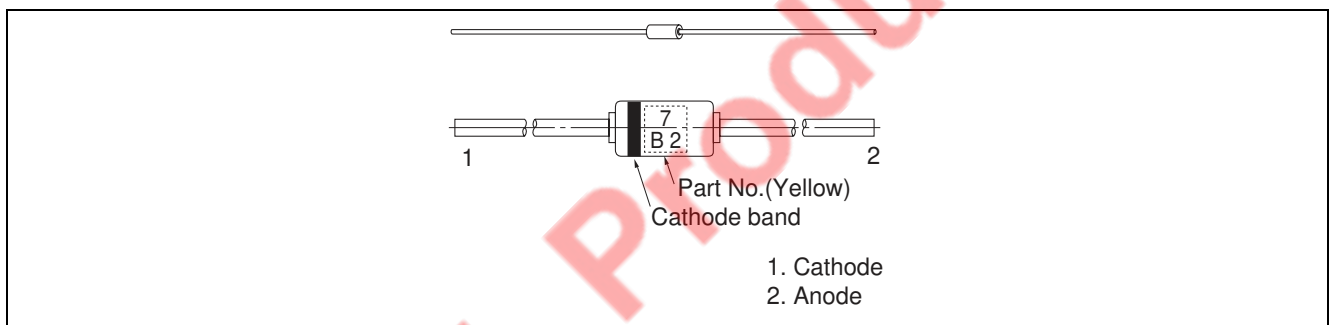
Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW are ideally suited for stabilized power supply, etc.
- Wide spectrum from 1.6 V through 38 V of zener voltage provide flexible application.

Ordering Information

Part No.	Cathode band	Package Name	Package Code
HZ(H) Series	Navy blue	DO-35	GRZZ0002ZB-A

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd	500	mW
Junction temperature	Tj	175	°C
Storage temperature	Tstg	-55 to +175	°C

Electrical Characteristics

(Ta = 25°C)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		V _Z (V)* ¹		Test Condition	I _R (μA)	Test Condition	r _d (Ω)	Test Condition
		Min	Max	I _Z (mA)	Max	V _R (V)	Max	I _Z (mA)
HZ2H	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					
HZ3H	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	5	5	0.5	100	5
	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					
HZ4H	A1	3.4	3.6	5	5	1.0	100	5
	A2	3.5	3.7					
	A3	3.6	3.8					
	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					
HZ5H	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	5	5	1.5	100	5
	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					

Note: 1. Tested with DC.

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		V_Z (V)* ¹		Test Condition	I_R (μ A)	Test Condition	r_d (Ω)	Test Condition
		Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (mA)
HZ6H	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					
HZ7H	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					
	C1	7.2	7.6					
	C2	7.3	7.7					
	C3	7.5	7.9					
HZ9H	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					
HZ11H	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					
HZ12H	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.

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		V _Z (V)* ¹		Test Condition	I _R (μA)	Test Condition	r _d (Ω)	Test Condition
		Min	Max	I _Z (mA)	Max	V _R (V)	Max	I _Z (mA)
HZ15H	1	14.1	14.7	5	1	11.0	40	5
	2	14.5	15.1					
	3	14.9	15.5					
HZ16H	1	15.3	15.9	5	1	12.0	45	5
	2	15.7	16.5					
	3	16.3	17.1					
HZ18H	1	16.9	17.7	5	1	13.0	55	5
	2	17.5	18.3					
	3	18.1	19.0					
HZ20H	1	18.8	19.7	2	1	15.0	60	2
	2	19.5	20.4					
	3	20.2	21.1					
HZ22H	1	20.9	21.9	2	1	17.0	65	2
	2	21.6	22.6					
	3	22.3	23.3					
HZ24H	1	22.9	24.0	2	1	19.0	70	2
	2	23.6	24.7					
	3	24.3	25.5					
HZ27H	1	25.2	26.6	2	1	21.0	80	2
	2	26.2	27.6					
	3	27.2	28.6					
HZ30H	1	28.2	29.6	2	1	23.0	100	2
	2	29.2	30.6					
	3	30.2	31.6					
HZ33H	1	31.2	32.6	2	1	25.0	120	2
	2	32.2	33.6					
	3	33.2	34.6					
HZ36H	1	34.2	35.7	2	1	27.0	140	2
	2	35.3	36.8					
	3	36.4	38.0					

Notes: 1. Tested with DC.

2. Type No. is as follows; HZ2HB1, HZ2HB2, HZ36H3.

Main Characteristic

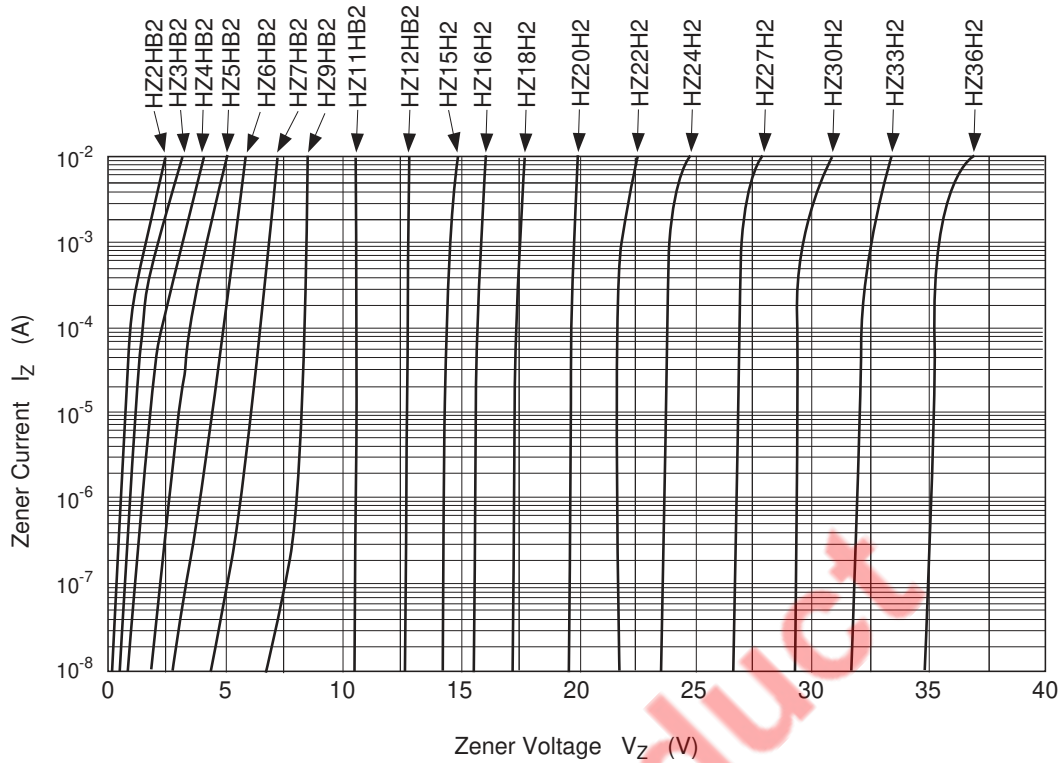


Fig.1 Zener current vs. Zener voltage

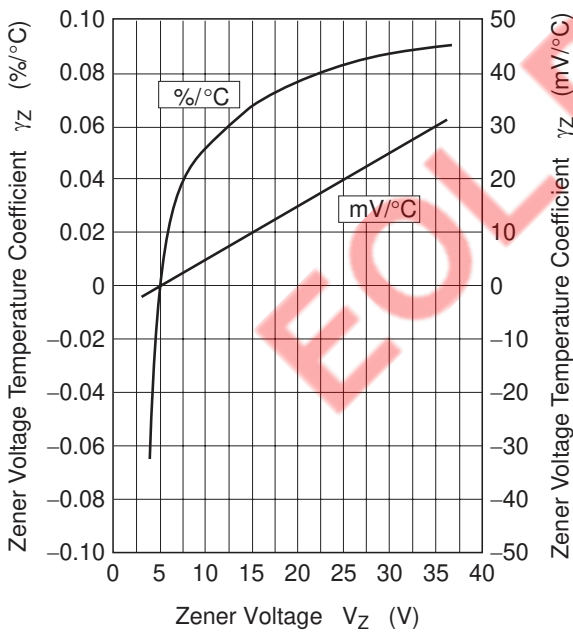


Fig.2 Temperature Coefficient vs. Zener voltage

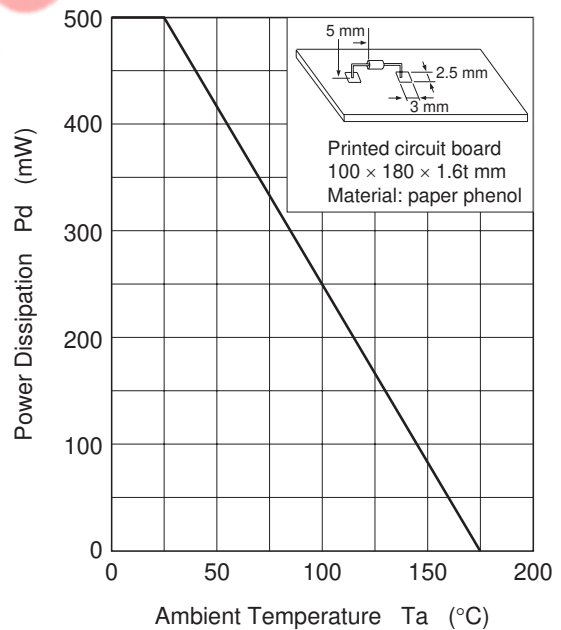
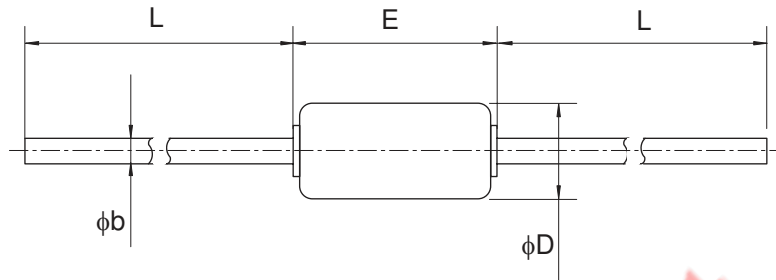


Fig.3 Power Dissipation vs. Ambient Temperature

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
ϕb	-	0.5	-
ϕD	-	2.0	-
E	-	-	4.2
L	26.0	-	-

EOL Product

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