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April 1st, 2010
Renesas Electronics Corporation

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

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HZ Series

Silicon Planar Zener Diode for Stabilized Power Supply

REJ03G0180-0600

Rev.6.00

Oct 29, 2007

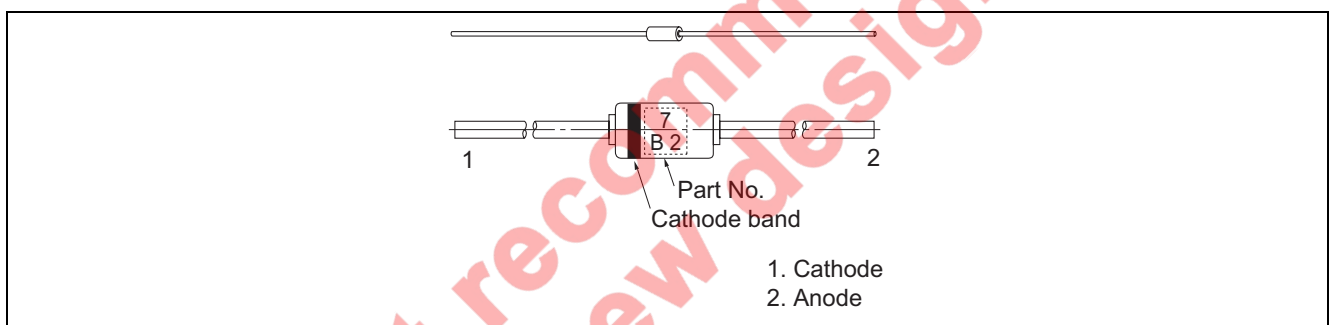
Features

- 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 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		Test Condition	
		Min	Max	I _Z (mA)	I _R (μA)	r _d (Ω)	I _Z (mA)
HZ2	A1	1.6	1.8	5	25	0.5	100
	A2	1.7	1.9				
	A3	1.8	2.0				
	B1	1.9	2.1	5	5	0.5	100
	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				
HZ3	A1	2.5	2.7	5	5	0.5	100
	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				
HZ4	A1	3.4	3.6	5	5	1.0	100
	A2	3.5	3.7				
	A3	3.6	3.8				
	B1	3.7	3.9				
	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				
HZ5	A1	4.3	4.5	5	5	1.5	100
	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				

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)
		Min	Max	I _Z (mA)	Max	V _R (V)	Max
HZ5	C1	4.9	5.1	5	5	1.5	100
	C2	5.0	5.2				
	C3	5.1	5.3				
HZ6	A1	5.2	5.5	5	5	2.0	40
	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				
HZ7	A1	6.3	6.6	5	1	3.5	15
	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				
HZ9	A1	7.7	8.1	5	1	5.0	20
	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				
HZ11	A1	9.5	9.9	5	1	7.5	25
	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				

Note: 1. Tested with DC.

Type	Grade	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)
HZ12	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					
HZ15	-1	14.1	14.7	5	1	11.0	40	5
	-2	14.5	15.1					
	-3	14.9	15.5					
HZ16	-1	15.3	15.9	5	1	12.0	45	5
	-2	15.7	16.5					
	-3	16.3	17.1					
HZ18	-1	16.9	17.7	5	1	13.0	55	5
	-2	17.5	18.3					
	-3	18.1	19.0					
HZ20	-1	18.8	19.7	2	1	15.0	60	2
	-2	19.5	20.4					
	-3	20.2	21.1					
HZ22	-1	20.9	21.9	2	1	17.0	65	2
	-2	21.6	22.6					
	-3	22.3	23.3					
HZ24	-1	22.9	24.0	2	1	19.0	70	2
	-2	23.6	24.7					
	-3	24.3	25.5					
HZ27	-1	25.2	26.6	2	1	21.0	80	2
	-2	26.2	27.6					
	-3	27.2	28.6					
HZ30	-1	28.2	29.6	2	1	23.0	100	2
	-2	29.2	30.6					
	-3	30.2	31.6					
HZ33	-1	31.2	32.6	2	1	25.0	120	2
	-2	32.2	33.6					
	-3	33.2	34.6					
HZ36	-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; HZ2B1, HZ2B2, HZ36-3.

Main Characteristic

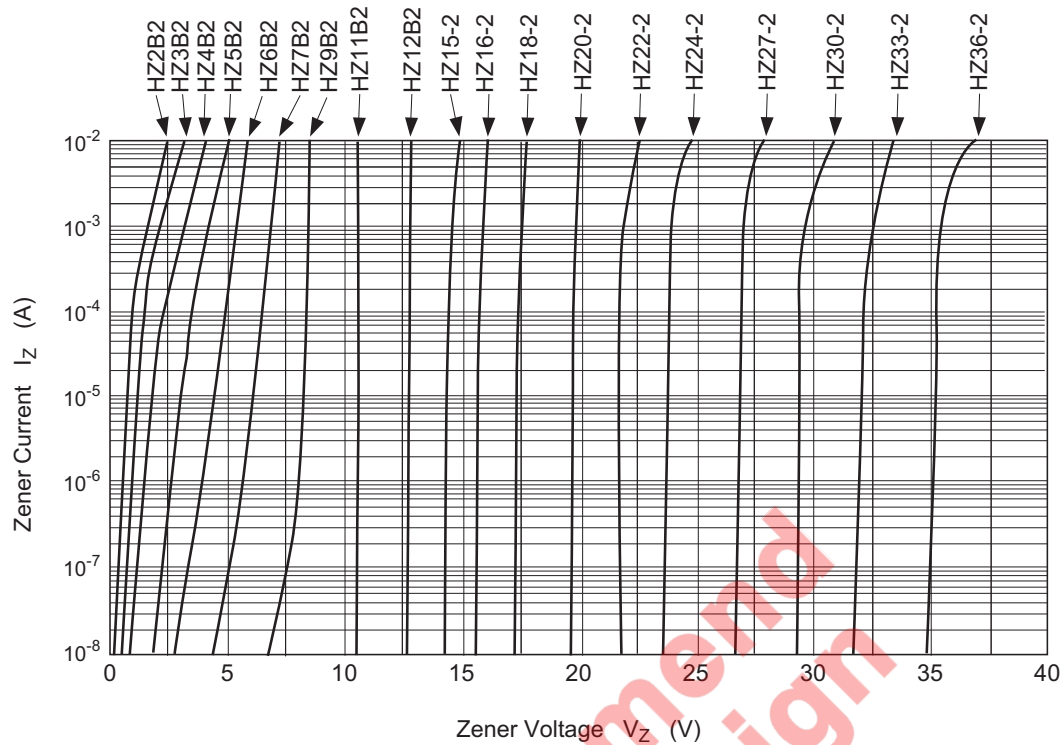


Fig.1 Zener current vs. Zener voltage

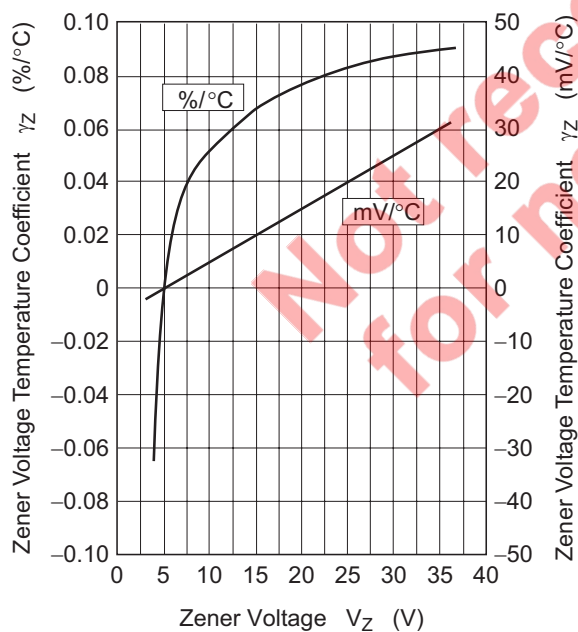


Fig.2 Temperature Coefficient vs. Zener voltage

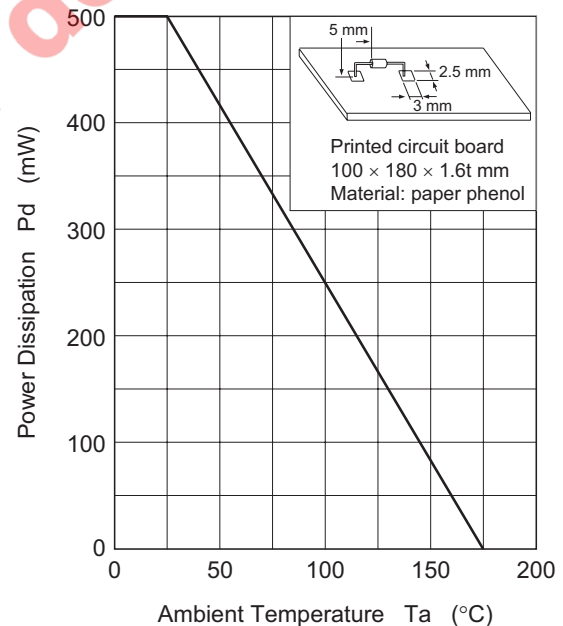
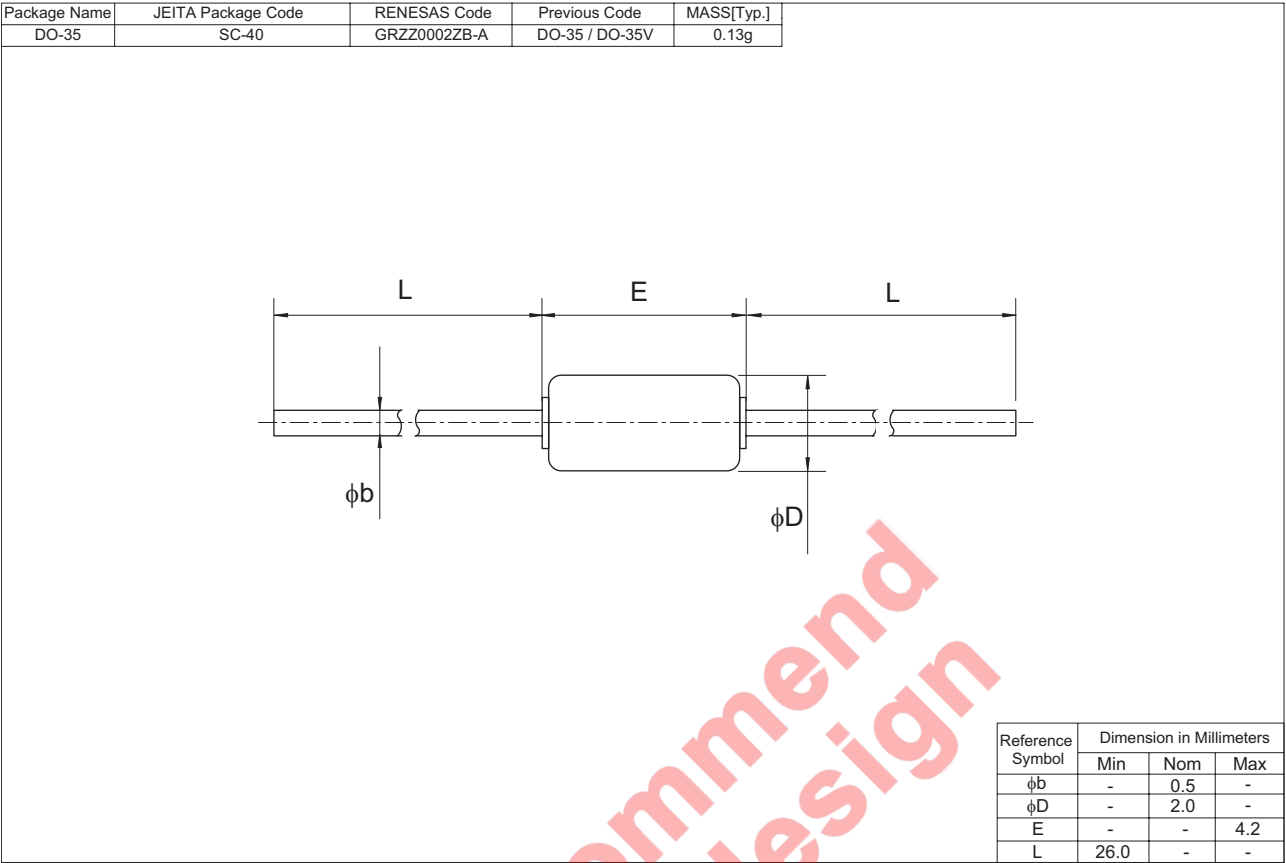


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions



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