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

April 1st, 2010
Renesas Electronics Corporation

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HZK Series

Silicon Epitaxial Planar Zener Diodes for Stabilized Power Supply

REJ03G0018-0300Z
(Previous: ADE-208-126B)
Rev.3.00
May.14.2003

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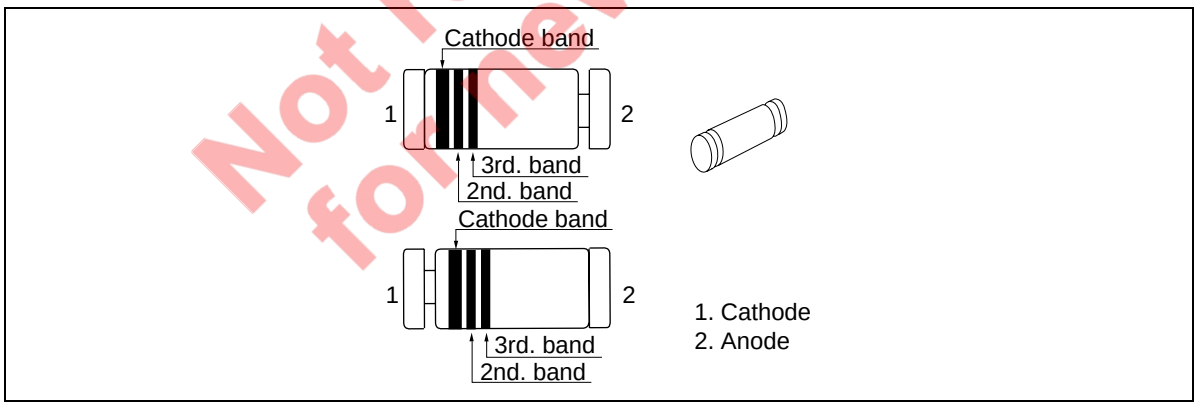
Features

- Low leakage, low zener impedance and maximum power dissipation of 500 mW.
- Wide spectrum from 1.9V through 38V of zener voltage provide flexible application.
- LLD Package is suitable for high density surface mounting and high speed assembly.

Ordering Information

Type No.	Mark	Package Code
HZK Series	Color Code	LLD

Pin Arrangement



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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

Note: With P.C. Board.

Electrical Characteristics

(Ta = 25°C)

		Zener Voltage			Reverse Current		Dynamic Resistance	
		V_Z (V) *		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)
HZK2	B	1.9	2.3	5	5	0.5	100	5
	C	2.2	2.6					
HZK3	A	2.5	2.9	5	5	0.5	100	5
	B	2.8	3.2					
	C	3.1	3.5					
HZK4	A	3.4	3.8	5	5	1.0	100	5
	B	3.7	4.1					
	C	4.0	4.4					
HZK5	A	4.3	4.7	5	5	1.5	100	5
	B	4.6	5.0					
	C	4.9	5.3					
HZK6	A	5.2	5.7	5	5	2	40	5
	B	5.5	6.0					
	C	5.8	6.4					
HZK7	A	6.3	6.9	5	1	3.5	15	5
	B	6.7	7.3					
	C	7.2	7.9					
HZK9	A	7.7	8.5	5	1	5	20	5
	B	8.3	9.1					
	C	8.9	9.7					

Note: Tested with DC.

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Electrical Characteristics (cont.)

(Ta = 25°C)

		Zener Voltage			Reverse Current		Dynamic Resistance	
		V_Z (V)*		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)
HZK11	A	9.5	10.3	5	1	7.5	25	5
	B	10.2	11.1					
	C	10.9	11.9					
HZK12	A	11.6	12.7	5	1	9.5	35	5
	B	12.4	13.4					
	C	13.2	14.3					
HZK15		14.1	15.5	5	1	11	40	5
HZK16		15.3	17.1	5	1	12	45	5
HZK18		16.9	19.0	5	1	13	55	5
HZK20		18.8	21.1	2	1	15	60	2
HZK22		20.9	23.3	2	1	17	65	2
HZK24		22.9	25.5	2	1	19	70	2
HZK27		25.2	28.6	2	1	21	80	2
HZK30		28.2	31.6	2	1	23	100	2
HZK33		31.2	34.6	2	1	25	120	2
HZK36		34.2	38.0	2	1	27	140	2

Note: Tested with DC.
Type No. is as follows: HZK2B, HZK2C, ••• HZK36.

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Mark Color Code

Type	Cathode Band	Second Band	Third Band
HZK2B	Yellow Green	Yellow Ocher	Verdure
HZK2C	Yellow Green	Yellow Ocher	Light Blue
HZK3A	Yellow Green	Pink	Pink
HZK3B	Yellow Green	Pink	Verdure
HZK3C	Yellow Green	Pink	Light Blue
HZK4A	Yellow Green	Orange	Pink
HZK4B	Yellow Green	Orange	Verdure
HZK4C	Yellow Green	Orange	Light Blue
HZK5A	Yellow Green	Yellow	Pink
HZK5B	Yellow Green	Yellow	Verdure
HZK5C	Yellow Green	Yellow	Light Blue
HZK6A	Yellow Green	Verdure	Pink
HZK6B	Yellow Green	Verdure	Verdure
HZK6C	Yellow Verdure	Verdure	Light Blue
HZK7A	Yellow Green	Yellow Green	Pink
HZK7B	Yellow Green	Yellow Green	Verdure
HZK7C	Yellow Green	Yellow Green	Light Blue
HZK9A	Yellow Green	Purple	Pink
HZK9B	Yellow Green	Purple	Verdure
HZK9C	Yellow Green	Purple	Light Blue
HZK11A	Yellow Green	Light Blue	Pink
HZK11B	Yellow Green	Light Blue	Verdure
HZK11C	Yellow Green	Light Blue	Light Blue
HZK12A	Yellow Green	White	Pink
HZK12B	Yellow Green	White	Verdure
HZK12C	Yellow Green	White	Light Blue
HZK15	Light Blue	Black	Pink
HZK16	Light Blue	Yellow Ocher	Pink
HZK18	Light Blue	Pink	Pink
HZK20	Light Blue	Orange	Pink
HZK22	Light Blue	Yellow	Pink
HZK24	Light Blue	Verdure	Pink
HZK27	Light Blue	Yellow Green	Pink
HZK30	Light Blue	Purple	Pink
HZK33	Light Blue	Light Blue	Pink
HZK36	Light Blue	White	Pink

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Main Characteristic

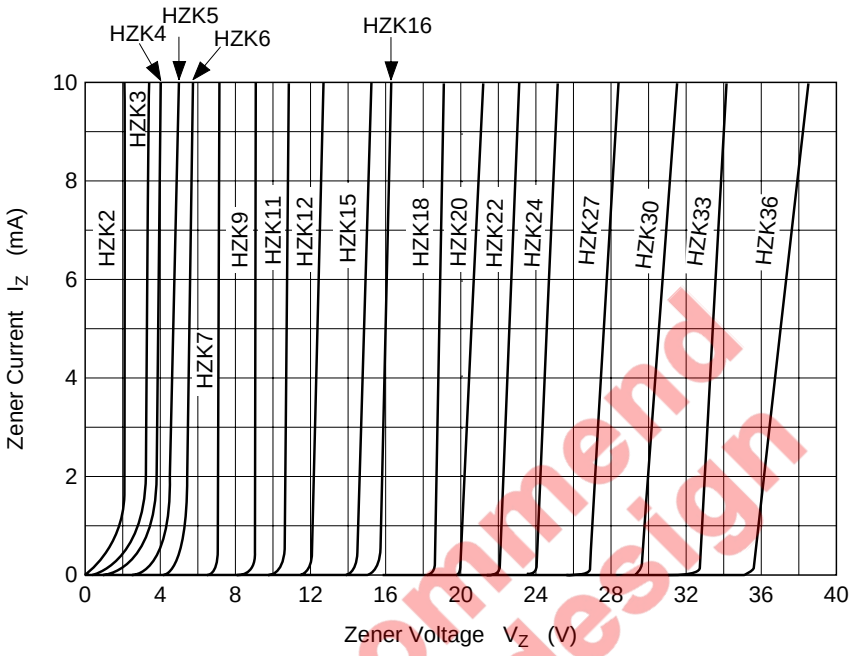


Fig.1 Zener current vs. Zener voltage

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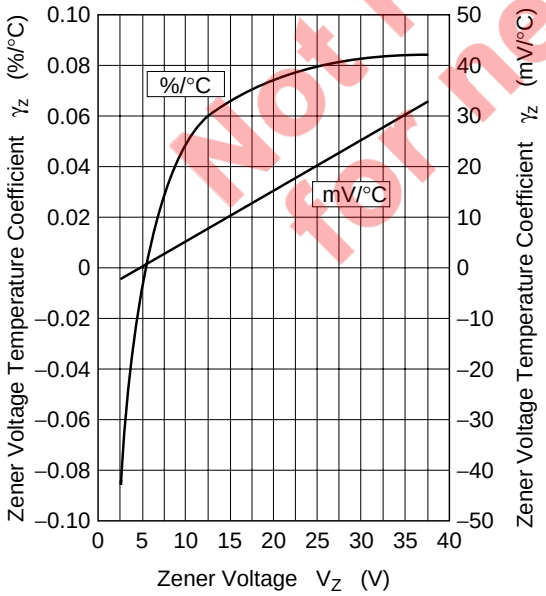


Fig.2 Temperature Coefficient vs. Zener voltage

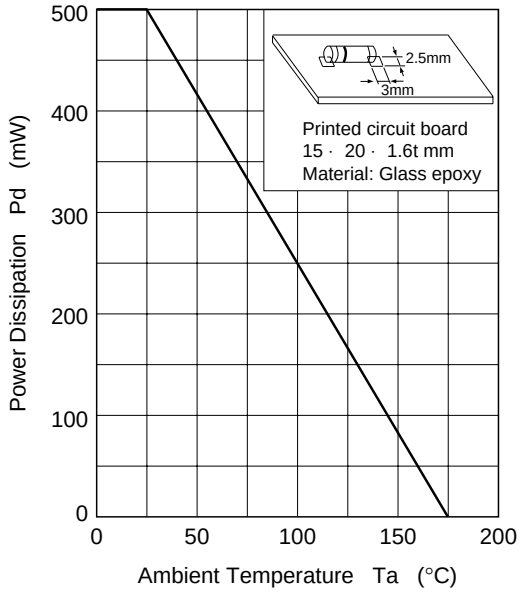


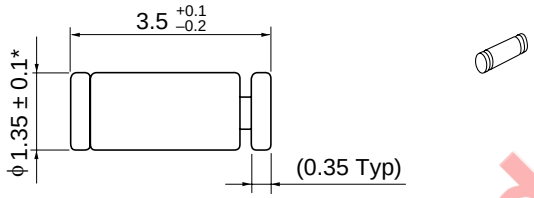
Fig.3 Power Dissipation vs. Ambient Temperature

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Package Dimensions

As of January, 2003

Unit: mm



Package Code	LLD
JEDEC	—
JEITA	—
Mass (reference value)	0.027 g

* HSK122: φ 1.4 ± 0.1 type

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