

# HZM-N Series

R07DS0358EJ0600

## Silicon Epitaxial Planar Zener Diode for Stabilizer

Rev.6.00

May 19, 2011

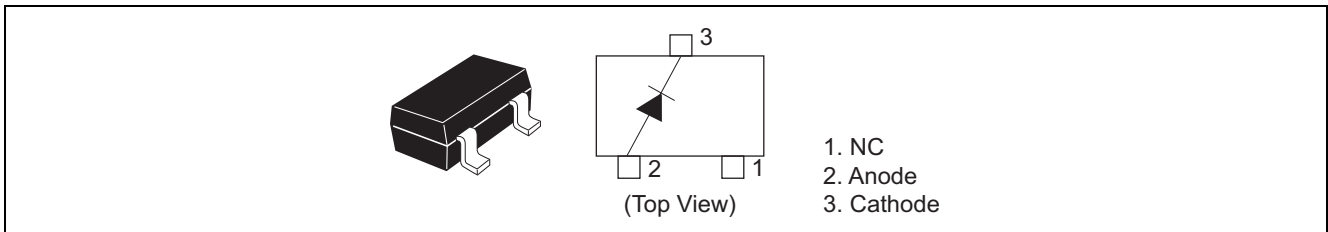
### Features

- Wide spectrum from 1.9 V through 38 V of zener voltage provide flexible application.
- MPAK Package is suitable for high density surface mounting and high speed assembly.

### Ordering Information

Part No	Laser Mark	Package Name	Package Code	Taping Abbreviation (Quantity)
HZM-N Series TL HZM-N Series TR	Let to Mark Code	MPAK	PLSP0003ZC-A	TL (3,000pcs / reel) TR (3,000pcs / reel)

### Pin Arrangement



## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Value	Unit
Power dissipation	Pd <sup>*1</sup>	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Note: 1. See Fig. 3.

## Electrical Characteristics

(Ta = 25°C)

Type	Grade	Zener Voltage			Reverse Current		Dynamic Resistance	
		V <sub>Z</sub> (V) <sup>*1</sup>		Test Condition	I <sub>R</sub> (μA)	Test Condition	r <sub>d</sub> (Ω)	Test Condition
		Min	Max	I <sub>Z</sub> (mA)	Max	V <sub>R</sub> (V)	Max	I <sub>Z</sub> (mA)
HZM2.0N	B	1.90	2.20	5	120	0.5	100	5
HZM2.2N	B	2.10	2.40	5	120	0.7	100	5
HZM2.4N	B	2.30	2.60	5	120	1.0	100	5
HZM2.7N	B1	2.50	2.75	5	120	1.0	110	5
	B2	2.65	2.90					
HZM3.0N	B1	2.80	3.05	5	50	1.0	120	5
	B2	2.95	3.20					
HZM3.3N	B1	3.10	3.35	5	20	1.0	130	5
	B2	3.25	3.50					
HZM3.6N	B1	3.40	3.65	5	10	1.0	130	5
	B2	3.55	3.80					
HZM3.9N	B1	3.70	3.97	5	10	1.0	130	5
	B2	3.87	4.10					
HZM4.3N	B1	4.01	4.21	5	10	1.0	130	5
	B2	4.15	4.34					
	B3	4.28	4.48					
HZM4.7N	B1	4.42	4.61	5	10	1.0	130	5
	B2	4.55	4.75					
	B3	4.69	4.90					
HZM5.1N	B1	4.84	5.04	5	5	1.5	130	5
	B2	4.98	5.20					
	B3	5.14	5.37					
HZM5.6N	B1	5.31	5.55	5	5	2.5	80	5
	B2	5.49	5.73					
	B3	5.67	5.92					
HZM6.2N	B1	5.86	6.12	5	2	3.0	50	5
	B2	6.06	6.33					
	B3	6.26	6.53					
HZM6.8N	B1	6.47	6.73	5	2	3.5	30	5
	B2	6.65	6.93					
	B3	6.86	7.14					
HZM7.5N	B1	7.06	7.36	5	2	4.0	30	5
	B2	7.28	7.60					
	B3	7.52	7.84					

Note: 1. Tested with pulse (Pw = 40 ms)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance		
		$V_Z$ (V)*1		Test Condition	$I_R$ ( $\mu$ A)	Test Condition	$r_d$ ( $\Omega$ )	Test Condition
		Min	Max	$I_Z$ (mA)	Max	$V_R$ (V)	Max	$I_Z$ (mA)
HZM8.2N	B1	7.76	8.10	5	2	5.0	30	5
	B2	8.02	8.36					
	B3	8.28	8.64					
HZM9.1N	B1	8.56	8.93	5	2	6.0	30	5
	B2	8.85	9.23					
	B3	9.15	9.55					
HZM10N	B1	9.45	9.87	5	2	7.0	30	5
	B2	9.77	10.21					
	B3	10.11	10.55					
HZM11N	B1	10.44	10.88	5	2	8.0	30	5
	B2	10.76	11.22					
	B3	11.10	11.56					
HZM12N	B1	11.42	11.90	5	2	9.0	35	5
	B2	11.74	12.24					
	B3	12.08	12.60					
HZM13N	B1	12.47	13.03	5	2	10.0	35	5
	B2	12.91	13.49					
	B3	13.37	13.96					
HZM15N	B1	13.84	14.46	5	2	11.0	40	5
	B2	14.34	14.98					
	B3	14.85	15.52					
HZM16N	B1	15.37	16.01	5	2	12.0	40	5
	B2	15.85	16.51					
	B3	16.35	17.09					
HZM18N	B1	16.94	17.70	5	2	13.0	45	5
	B2	17.56	18.35					
	B3	18.21	19.03					
HZM20N	B1	18.86	19.70	5	2	15.0	50	5
	B2	19.52	20.39					
	B3	20.21	21.08					
HZM22N	B1	20.88	21.77	5	2	17.0	55	5
	B2	21.54	22.47					
	B3	22.23	23.17					
HZM24N	B1	22.93	23.96	5	2	19.0	60	5
	B2	23.72	24.78					
	B3	24.54	25.57					
HZM27N	B	25.10	28.90	2	2	21.0	70	2
HZM30N	B	28.00	32.00	2	2	23.0	80	2
HZM33N	B	31.00	35.00	2	2	25.0	80	2
HZM36N	B	34.00	38.00	2	2	27.0	90	2

Note: 1. Tested with pulse ( $P_W = 40$  ms)

Mark Code

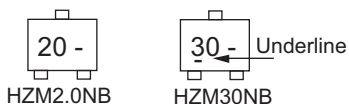
Type	Grade	Mark No.
HZM2.0N	B	2 0 -
HZM2.2N	B	2 2 -
HZM2.4N	B	2 4 -
HZM2.7N	B1	2 7 1
	B2	2 7 2
HZM3.0N	B1	3 0 1
	B2	3 0 2
HZM3.3N	B1	3 3 1
	B2	3 3 2
HZM3.6N	B1	3 6 1
	B2	3 6 2
HZM3.9N	B1	3 9 1
	B2	3 9 2
HZM4.3N	B1	4 3 1
	B2	4 3 2
	B3	4 3 3
HZM4.7N	B1	4 7 1
	B2	4 7 2
	B3	4 7 3
HZM5.1N	B1	5 1 1
	B2	5 1 2
	B3	5 1 3
HZM5.6N	B1	5 6 1
	B2	5 6 2
	B3	5 6 3

Type	Grade	Mark No.
HZM6.2N	B1	6 2 1
	B2	6 2 2
	B3	6 2 3
HZM6.8N	B1	6 8 1
	B2	6 8 2
	B3	6 8 3
HZM7.5N	B1	7 5 1
	B2	7 5 2
	B3	7 5 3
HZM8.2N	B1	8 2 1
	B2	8 2 2
	B3	8 2 3
HZM9.1N	B1	9 1 1
	B2	9 1 2
	B3	9 1 3
HZM10N	B1	<u>1</u> 0 1
	B2	<u>1</u> 0 2
	B3	<u>1</u> 0 3
HZM11N	B1	<u>1</u> 1 1
	B2	<u>1</u> 1 2
	B3	<u>1</u> 1 3
HZM12N	B1	<u>1</u> 2 1
	B2	<u>1</u> 2 2
	B3	<u>1</u> 2 3

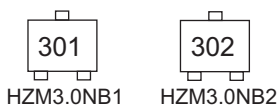
Type	Grade	Mark No.
HZM13N	B1	<u>1</u> 3 1
	B2	<u>1</u> 3 2
	B3	<u>1</u> 3 3
HZM15N	B1	<u>1</u> 5 1
	B2	<u>1</u> 5 2
	B3	<u>1</u> 5 3
HZM16N	B1	<u>1</u> 6 1
	B2	<u>1</u> 6 2
	B3	<u>1</u> 6 3
HZM18N	B1	<u>1</u> 8 1
	B2	<u>1</u> 8 2
	B3	<u>1</u> 8 3
HZM20N	B1	<u>2</u> 0 1
	B2	<u>2</u> 0 2
	B3	<u>2</u> 0 3
HZM22N	B1	<u>2</u> 2 1
	B2	<u>2</u> 2 2
	B3	<u>2</u> 2 3
HZM24N	B1	<u>2</u> 4 1
	B2	<u>2</u> 4 2
	B3	<u>2</u> 4 3
HZM27N	B	<u>2</u> 7 -
HZM30N	B	<u>3</u> 0 -
HZM33N	B	<u>3</u> 3 -
HZM36N	B	<u>3</u> 6 -

Example of Marking

1. One grade type (grade type B)



2. Two grade type (B1, B2)



3. Three grade type (B1, B2, B3)



Notes: 1. Ordering P/N HZM-N series are delivered taped (TL/TR).

2. Choose one taping code and adhere to parts No.

Example: HZM2.0NBTL (or TR), HZM2.2NBTL (or TR), HZM36NBTL (or TR).  
(Grade B type)

HZM2.7NB1TL (or TR), HZM2.7NB2TL (or TR), HZM24NB3TL (or TR).  
(Grade B1, B2, B3 type)

Main Characteristics

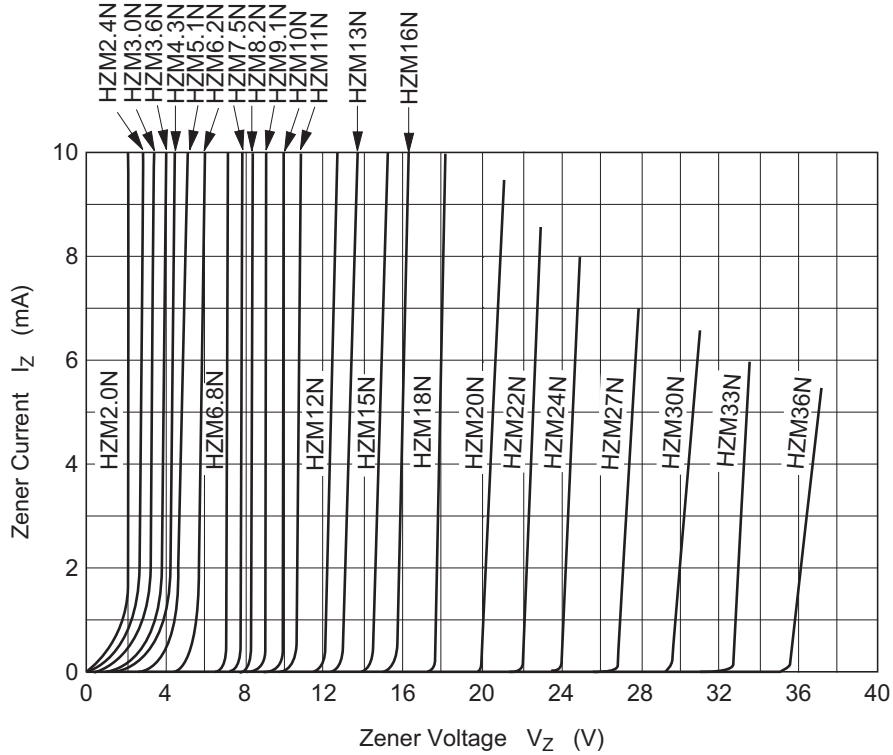


Fig.1 Zener current vs. Zener voltage

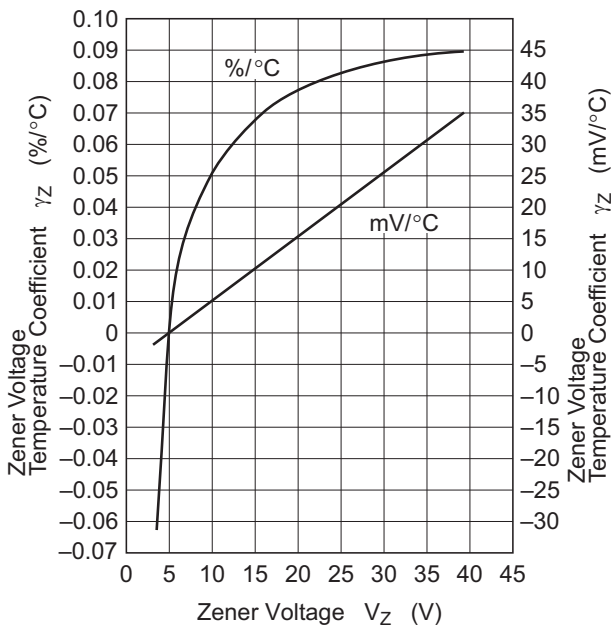


Fig.2 Temperature Coefficient vs. Zener voltage

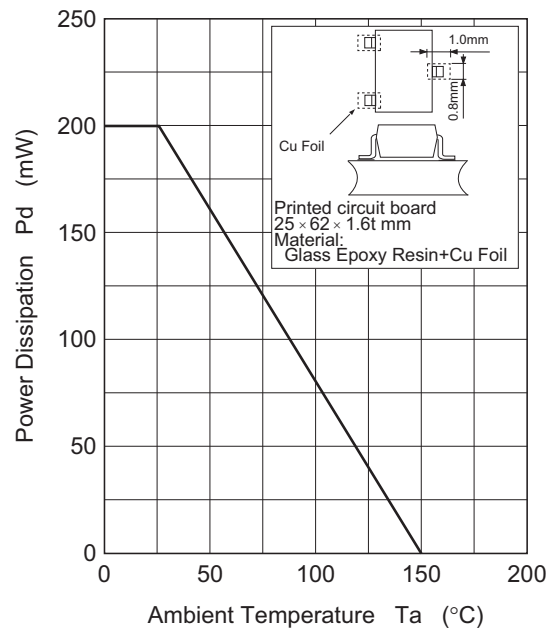
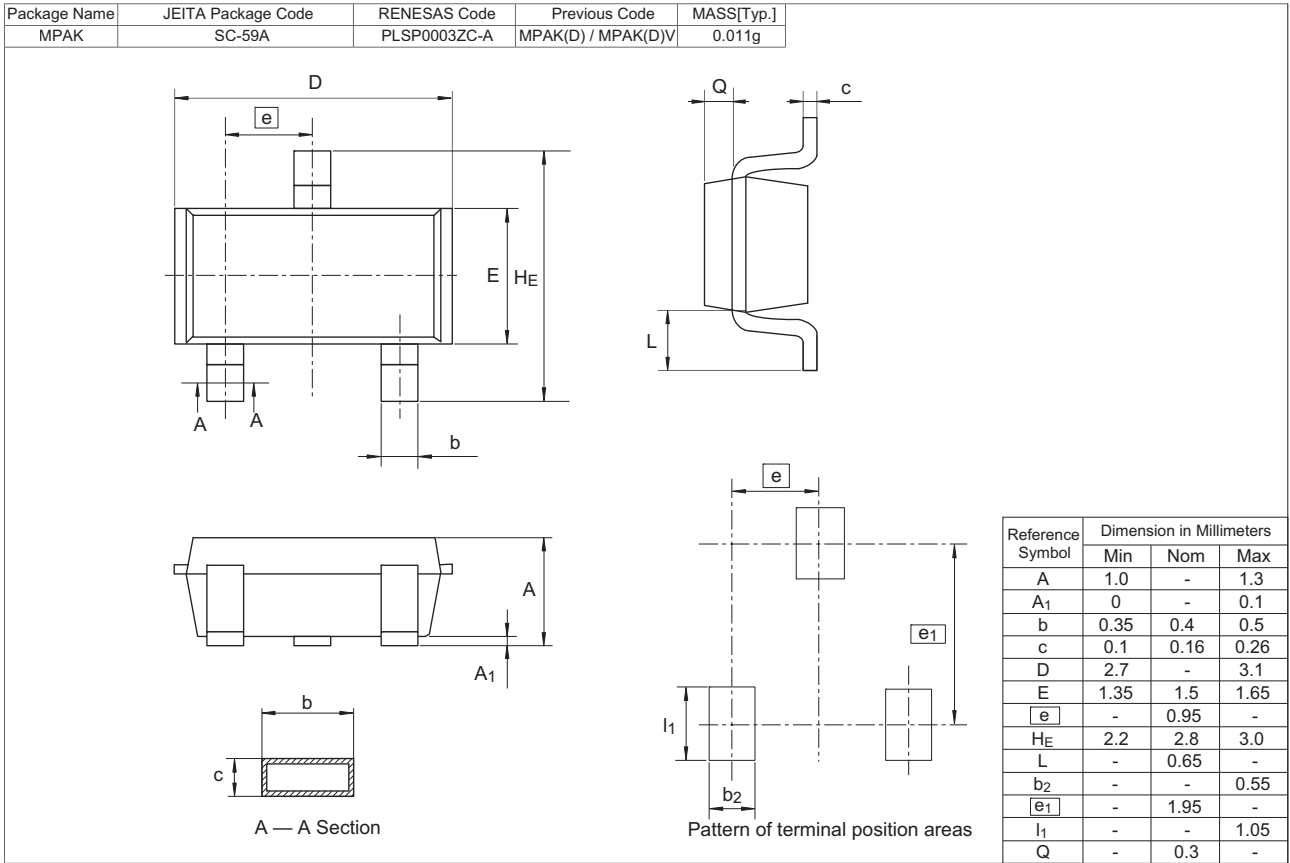


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions



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2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.  
Tel: +1-408-586-6000, Fax: +1-408-586-6130

**Renesas Electronics Canada Limited**  
1101 Nicholson Road, Newmarket, Ontario L3Y 9C3, Canada  
Tel: +1-905-898-5441, Fax: +1-905-898-3220

**Renesas Electronics Europe Limited**  
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.  
Tel: +44-1628-585-100, Fax: +44-1628-585-900

**Renesas Electronics Europe GmbH**  
Arcadiastrasse 10, 40472 Düsseldorf, Germany  
Tel: +49-211-65030, Fax: +49-211-6503-1327

**Renesas Electronics (China) Co., Ltd.**  
7th Floor, Quantum Plaza, No.27 ZhiChunLu Haidian District, Beijing 100083, P.R.China  
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

**Renesas Electronics (Shanghai) Co., Ltd.**  
Unit 204, 205, AZIA Center, No.1233 Lujiazui Ring Rd., Pudong District, Shanghai 200120, China  
Tel: +86-21-5877-1818, Fax: +86-21-6887-7858 / -7898

**Renesas Electronics Hong Kong Limited**  
Unit 1601-1613, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong  
Tel: +852-2886-9318, Fax: +852 2886-9022/9044

**Renesas Electronics Taiwan Co., Ltd.**  
13F, No. 363, Fu Shing North Road, Taipei, Taiwan  
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

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Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

**Renesas Electronics Korea Co., Ltd.**  
11F., Samik Lavied' or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea  
Tel: +82-2-558-3737, Fax: +82-2-558-5141