

HZM-N Series

Silicon Epitaxial Planar Zener Diode for Stabilizer

R07DS0358EJ0600

Rev.6.00

May 19, 2011

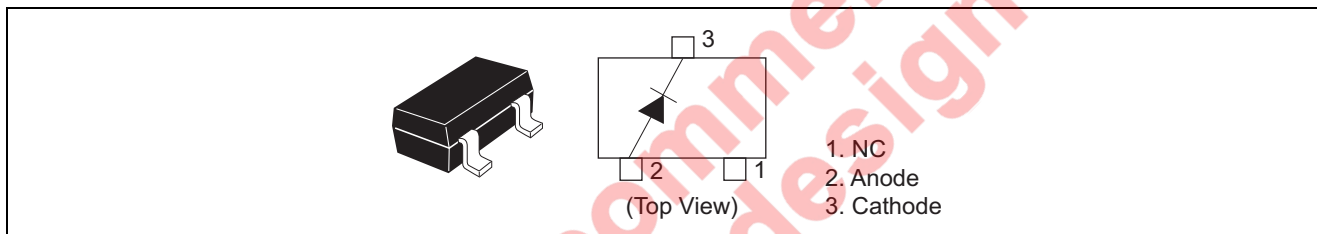
Features

- 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	P_d^{*1}	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_Z (V)* ¹		Test Condition	I_R (μA)	Test Condition	r_d (Ω)
		Min	Max	I_Z (mA)	Max	V_R (V)	Max
HZM2.0N	B	1.90	2.20	5	120	0.5	100
HZM2.2N	B	2.10	2.40	5	120	0.7	100
HZM2.4N	B	2.30	2.60	5	120	1.0	100
HZM2.7N	B1	2.50	2.75	5	120	1.0	110
	B2	2.65	2.90				
HZM3.0N	B1	2.80	3.05	5	50	1.0	120
	B2	2.95	3.20				
HZM3.3N	B1	3.10	3.35	5	20	1.0	130
	B2	3.25	3.50				
HZM3.6N	B1	3.40	3.65	5	10	1.0	130
	B2	3.55	3.80				
HZM3.9N	B1	3.70	3.97	5	10	1.0	130
	B2	3.87	4.10				
HZM4.3N	B1	4.01	4.21	5	10	1.0	130
	B2	4.15	4.34				
	B3	4.28	4.48				
HZM4.7N	B1	4.42	4.61	5	10	1.0	130
	B2	4.55	4.75				
	B3	4.69	4.90				
HZM5.1N	B1	4.84	5.04	5	5	1.5	130
	B2	4.98	5.20				
	B3	5.14	5.37				
HZM5.6N	B1	5.31	5.55	5	5	2.5	80
	B2	5.49	5.73				
	B3	5.67	5.92				
HZM6.2N	B1	5.86	6.12	5	2	3.0	50
	B2	6.06	6.33				
	B3	6.26	6.53				
HZM6.8N	B1	6.47	6.73	5	2	3.5	30
	B2	6.65	6.93				
	B3	6.86	7.14				
HZM7.5N	B1	7.06	7.36	5	2	4.0	30
	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 (μ A)	Test Condition	r_d (Ω)
		Min	Max	I_Z (mA)	Max	V_R (V)	Max
HZM8.2N	B1	7.76	8.10	5	2	5.0	30
	B2	8.02	8.36				
	B3	8.28	8.64				
HZM9.1N	B1	8.56	8.93	5	2	6.0	30
	B2	8.85	9.23				
	B3	9.15	9.55				
HZM10N	B1	9.45	9.87	5	2	7.0	30
	B2	9.77	10.21				
	B3	10.11	10.55				
HZM11N	B1	10.44	10.88	5	2	8.0	30
	B2	10.76	11.22				
	B3	11.10	11.56				
HZM12N	B1	11.42	11.90	5	2	9.0	35
	B2	11.74	12.24				
	B3	12.08	12.60				
HZM13N	B1	12.47	13.03	5	2	10.0	35
	B2	12.91	13.49				
	B3	13.37	13.96				
HZM15N	B1	13.84	14.46	5	2	11.0	40
	B2	14.34	14.98				
	B3	14.85	15.52				
HZM16N	B1	15.37	16.01	5	2	12.0	40
	B2	15.85	16.51				
	B3	16.35	17.09				
HZM18N	B1	16.94	17.70	5	2	13.0	45
	B2	17.56	18.35				
	B3	18.21	19.03				
HZM20N	B1	18.86	19.70	5	2	15.0	50
	B2	19.52	20.39				
	B3	20.21	21.08				
HZM22N	B1	20.88	21.77	5	2	17.0	55
	B2	21.54	22.47				
	B3	22.23	23.17				
HZM24N	B1	22.93	23.96	5	2	19.0	60
	B2	23.72	24.78				
	B3	24.54	25.57				
HZM27N	B	25.10	28.90	2	2	21.0	70
HZM30N	B	28.00	32.00	2	2	23.0	80
HZM33N	B	31.00	35.00	2	2	25.0	80
HZM36N	B	34.00	38.00	2	2	27.0	90

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

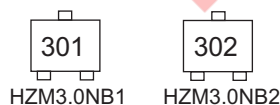
Type	Grade	Mark No.
HZM13N	B1	<u>1</u> 3 1
	B2	<u>1</u> 3 2
	B3	<u>1</u> 3 3
HZM15N	B1	<u>1</u> 5 1
	B2	<u>1</u> 5 2
	B3	<u>1</u> 5 3
HZM16N	B1	<u>1</u> 6 1
	B2	<u>1</u> 6 2
	B3	<u>1</u> 6 3
HZM18N	B1	<u>1</u> 8 1
	B2	<u>1</u> 8 2
	B3	<u>1</u> 8 3
HZM20N	B1	<u>2</u> 0 1
	B2	<u>2</u> 0 2
	B3	<u>2</u> 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

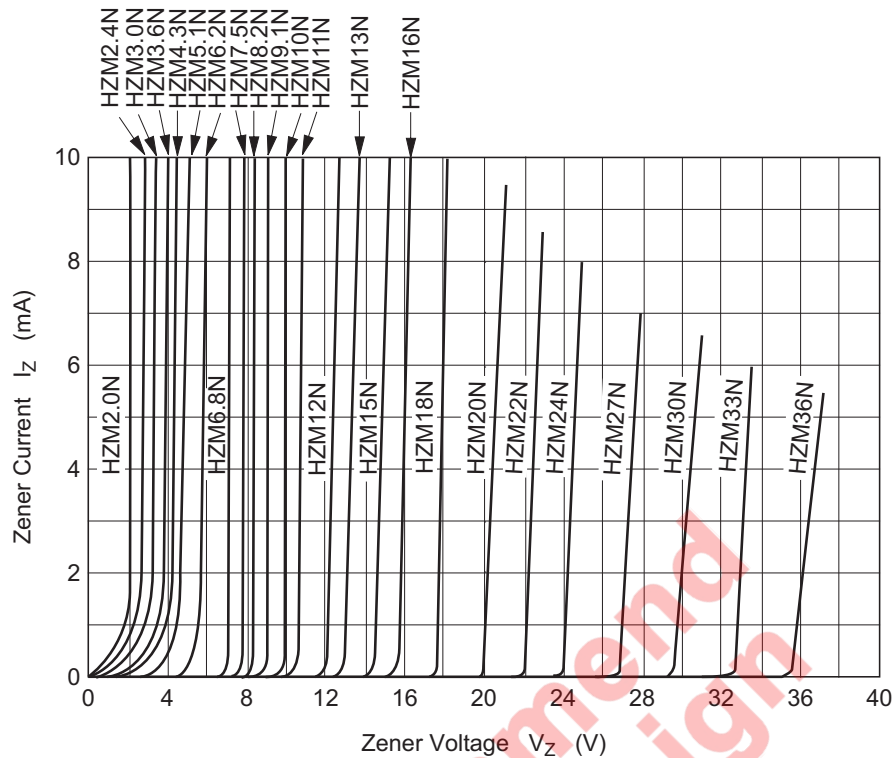


Fig.1 Zener current vs. Zener voltage

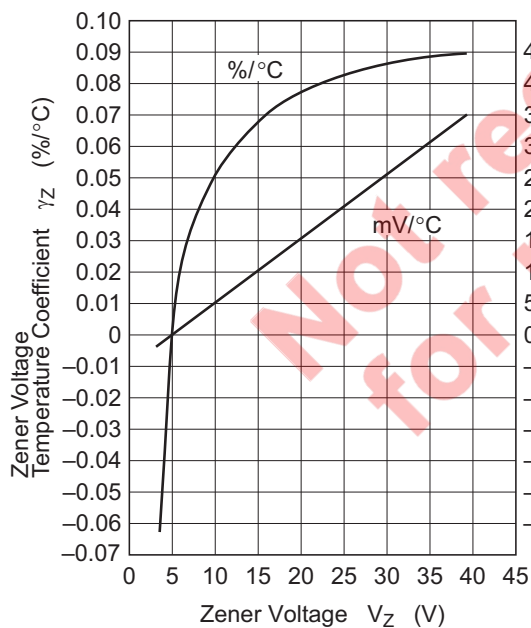


Fig.2 Temperature Coefficient vs. Zener voltage

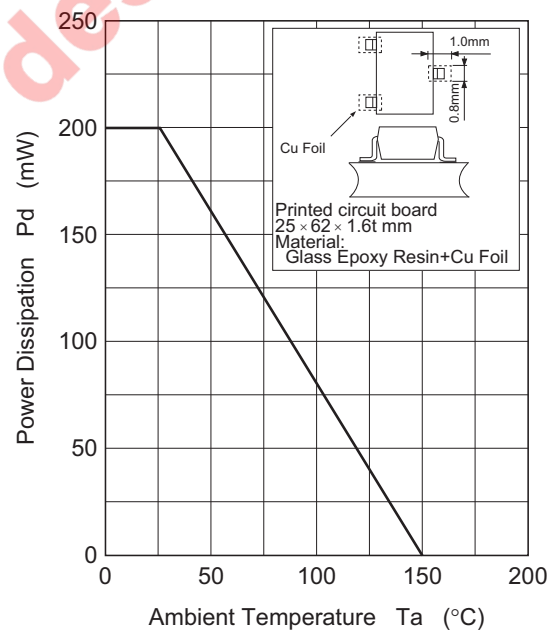
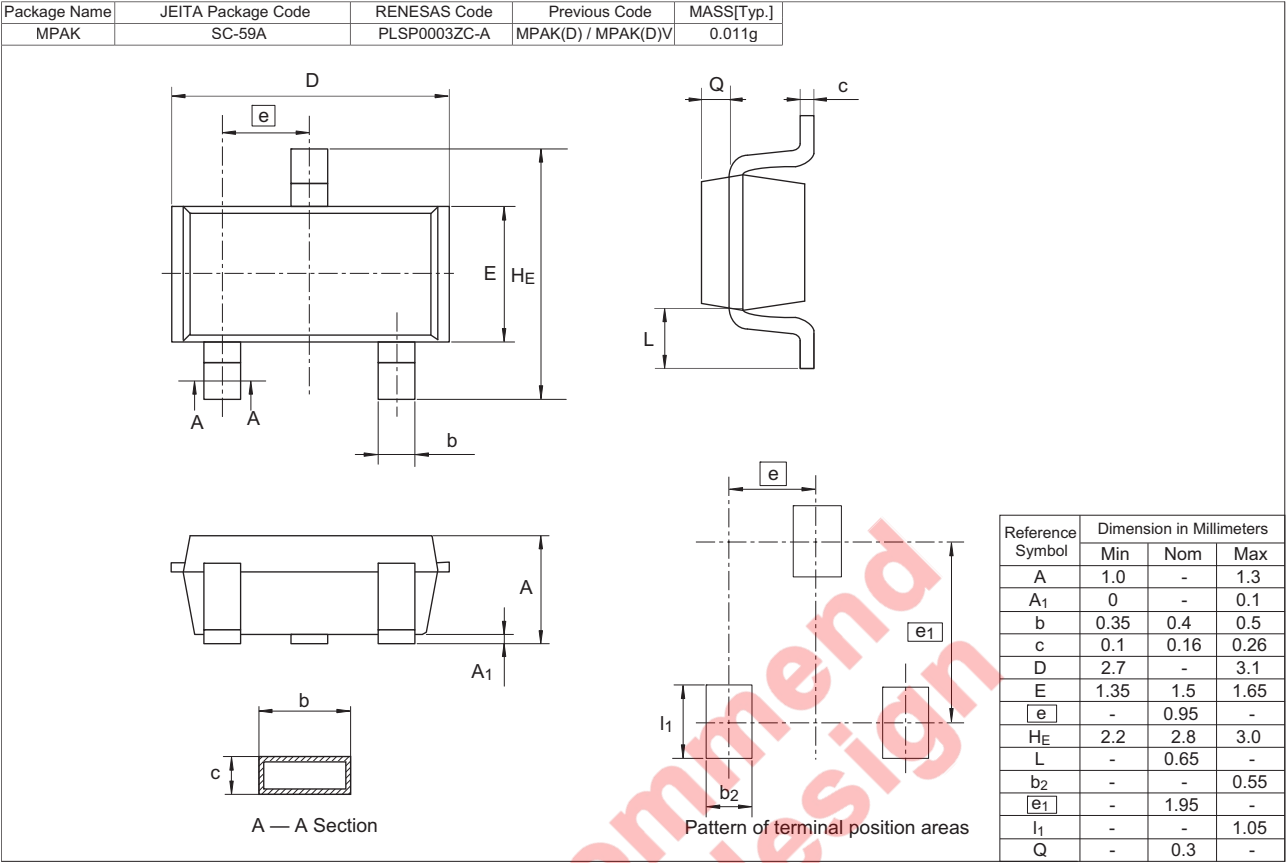


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions



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Renesas Electronics America Inc.

2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.
Tel: +1-408-588-6000, Fax: +1-408-588-6130

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

Renesas Electronics Singapore Pte. Ltd.

1 harbourFront Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: +65-6213-0200, Fax: +65-6278-8001

Renesas Electronics Malaysia Sdn.Bhd.

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 Laviel' or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5141