

HZM-N Series

Silicon Epitaxial Planar Zener Diode for Stabilizer

R07DS0358EJ0600

Rev.6.00

May 19, 2011

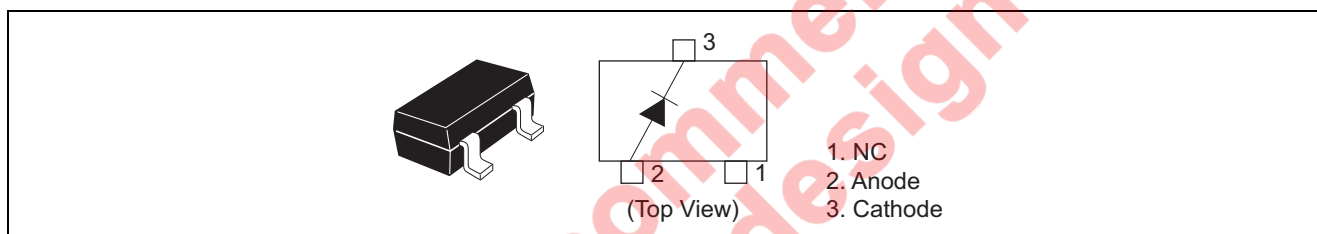
Features

- 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	T_j	150	°C
Storage temperature	T_{stg}	-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)	Test Condition
		Min	Max	I_Z (mA)	Max	V_R (V)	Max	I_Z (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 ($P_w = 40$ ms)

Type	Grade	Zener Voltage		Reverse Current		Dynamic Resistance	
		V_Z (V)* ¹		Test Condition	I_R (μA)	Test Condition	Test Condition
		Min	Max	I_Z (mA)	Max	V_R (V)	r_d (Ω)
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

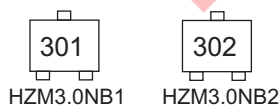
Type	Grade	Mark No.
HZM13N	B1	<u>1</u> 3 1
	B2	<u>1</u> 3 2
	B3	<u>1</u> 3 3
HZM15N	B1	<u>1</u> 5 1
	B2	<u>1</u> 5 2
	B3	<u>1</u> 5 3
HZM16N	B1	<u>1</u> 6 1
	B2	<u>1</u> 6 2
	B3	<u>1</u> 6 3
HZM18N	B1	<u>1</u> 8 1
	B2	<u>1</u> 8 2
	B3	<u>1</u> 8 3
HZM20N	B1	<u>2</u> 0 1
	B2	<u>2</u> 0 2
	B3	<u>2</u>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

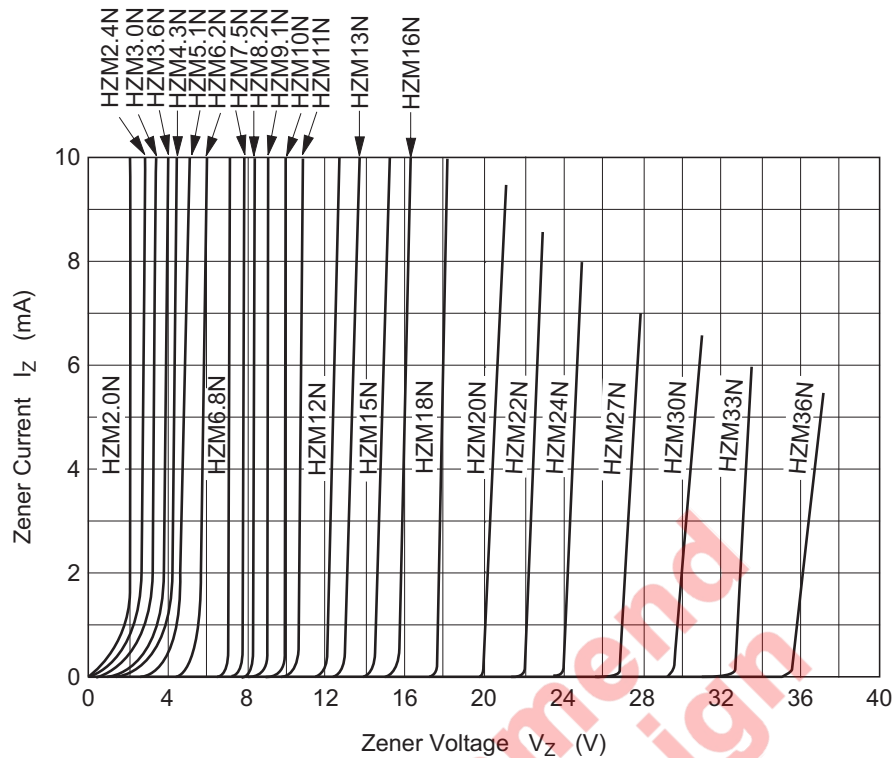


Fig.1 Zener current vs. Zener voltage

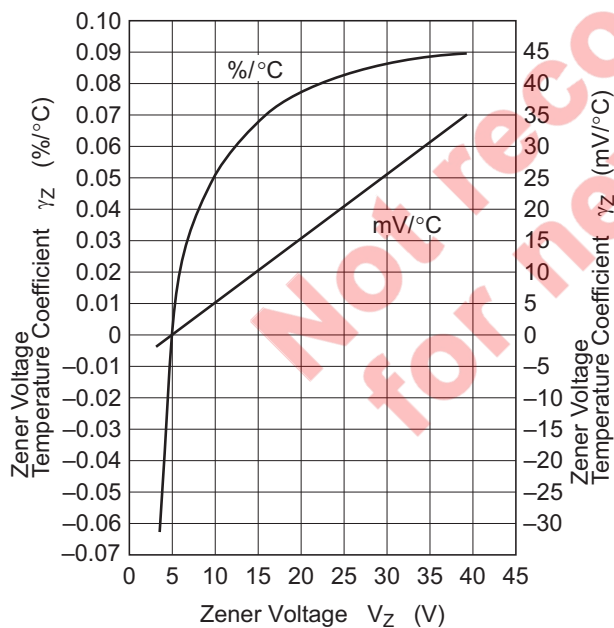


Fig.2 Temperature Coefficient vs. Zener voltage

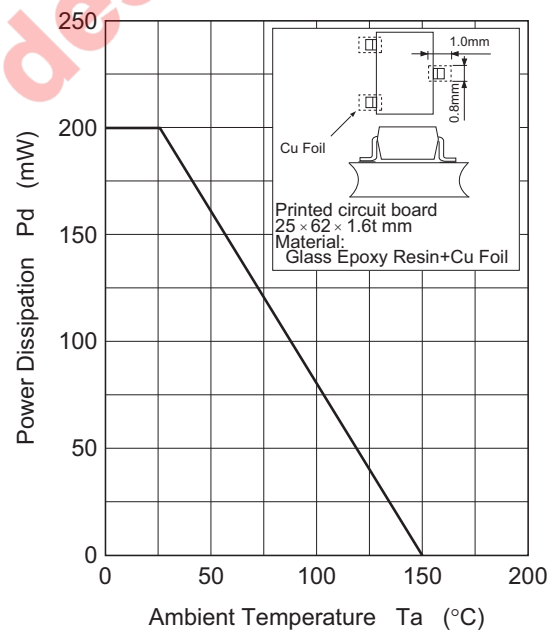
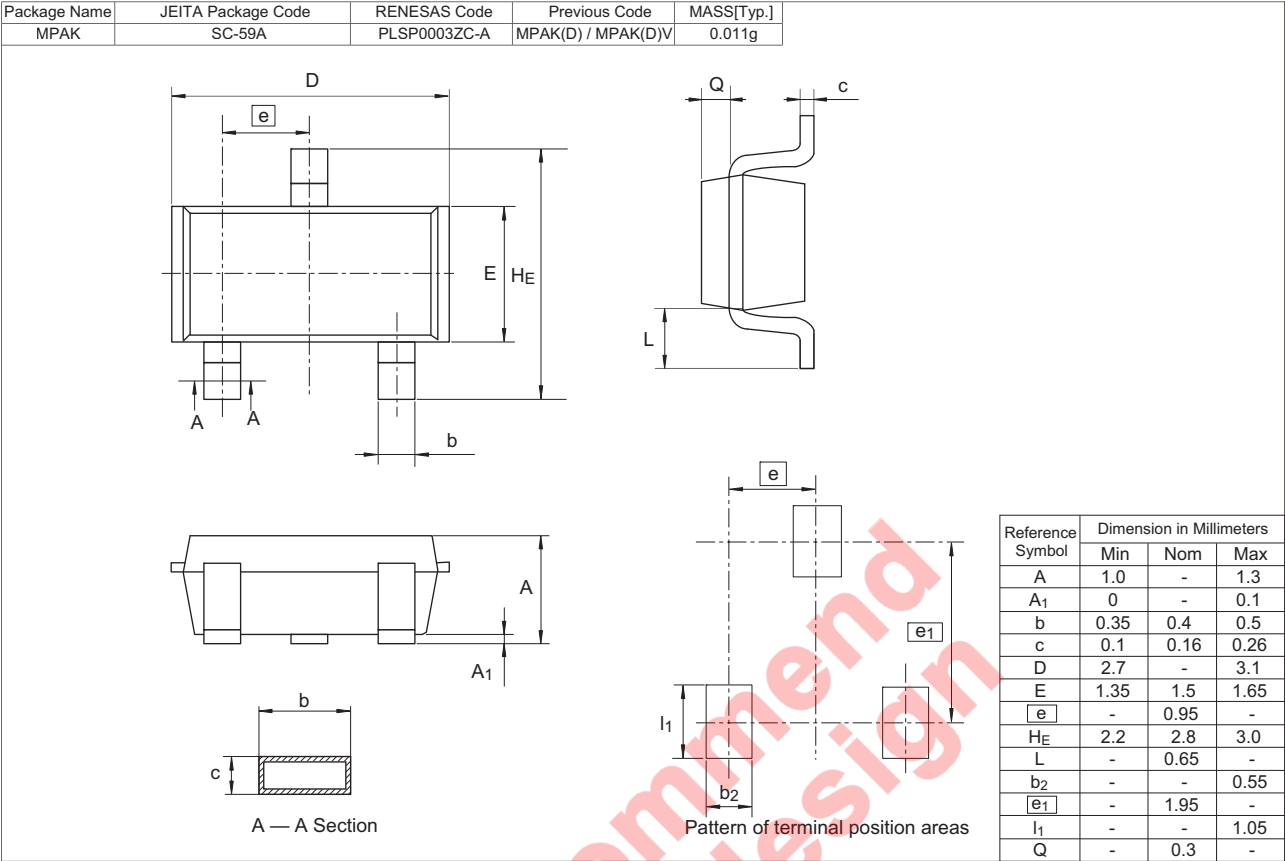


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions



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