

# GSMBJ5338B thru GSMBJ5388B

Surface Mount Zener Diodes

V<sub>z</sub> Range: 5.1V to 200V Power Dissipation: 5.0W

## Features

- Low profile package for surface mounting (flat handling surface for accurate placement)
- Zener voltage 5.1V to 200V
- Available on tape and reel (see E1A Std RS-481)
- Moisture sensitivity level 1
- Epoxy meets UL 94 V-0 flammability rating
- V<sub>z</sub> tolerance: ± 5%



DO-214AA(SMB)

## Maximum Ratings

Parameter	Symbol	Value	Unit
Steady State Power Dissipation <sup>1</sup>	P <sub>(AV)</sub>	5.0	W
Maximum Forward Voltage (I <sub>F</sub> =1.0A)	V <sub>F</sub>	1.2	V
Typical Thermal Resistance, Junction to Ambient <sup>2</sup>	R <sub>θJA</sub>	90	°C/W
Typical Thermal Resistance, Junction to Lead	R <sub>θJL</sub>	15	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

Notes:

1. Lead temperature at T<sub>L</sub>=75°C at mounting plane. Derate linearly above 75°C to zero power at 150°C.
2. Ambient temperature at T<sub>A</sub>=15°C at mounting plane. Derate linearly above 15°C to zero power at 150°C.

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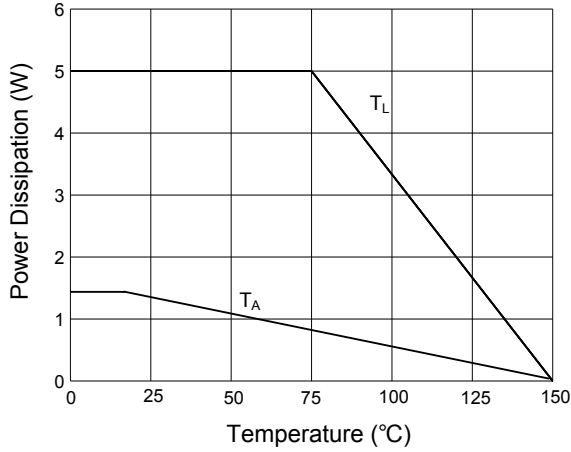
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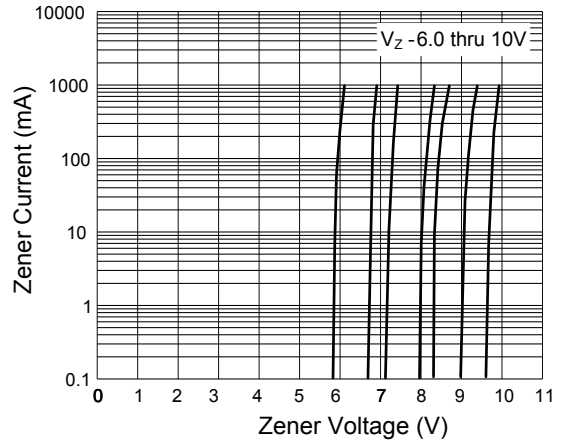
## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Part Number	Mark-ing Code	Regulator Voltage V <sub>Z</sub>	Test Current I <sub>Z</sub>	Maximum Dynamic Impedance Z <sub>DT</sub>	Maximum Reverse Current I <sub>R</sub>	Test Voltage V <sub>R</sub>	Maximum Regulator Current I <sub>ZM</sub>	Maximum Dynamic Knee Impedance Z <sub>ZK</sub> @ 1.0mA	Maximum Surge Current I <sub>ZSM</sub>	Maximum Voltage Regulation
		V	mA	Ω	μA	V	mA	Ω	A	V
GSMBJ5338B	38B	5.1	240	1.5	1	1	930	400	14.4	0.39
GSMBJ5339B	39B	5.6	220	1	1	2	865	400	13.4	0.25
GSMBJ5340B	40B	6	200	1	1	3	790	300	12.7	0.19
GSMBJ5341B	41B	6.2	200	1	1	3	765	200	12.4	0.1
GSMBJ5342B	42B	6.8	175	1	10	5.2	700	200	11.5	0.15
GSMBJ5343B	43B	7.5	175	1.5	10	5.7	630	200	10.7	0.15
GSMBJ5344B	44B	8.2	150	1.5	10	6.2	580	200	10	0.2
GSMBJ5345B	45B	8.7	150	2	10	6.6	545	200	9.5	0.2
GSMBJ5346B	46B	9.1	150	2	7.5	6.9	520	150	9.2	0.22
GSMBJ5347B	47B	10	125	2	5	7.6	475	125	8.6	0.22
GSMBJ5348B	48B	11	125	2.5	5	8.4	430	125	8	0.25
GSMBJ5349B	49B	12	100	2.5	2	9.1	395	125	7.5	0.25
GSMBJ5350B	50B	13	100	2.5	1	9.9	365	100	7	0.25
GSMBJ5351B	51B	14	100	2.5	1	10.6	340	75	6.7	0.25
GSMBJ5352B	52B	15	75	2.5	1	11.5	315	75	6.3	0.25
GSMBJ5353B	53B	16	75	2.5	1	12.2	295	75	6	0.3
GSMBJ5354B	54B	17	70	2.5	0.5	12.9	280	75	5.8	0.35
GSMBJ5355B	55B	18	65	2.5	0.5	13.7	264	75	5.5	0.4
GSMBJ5356B	56B	19	65	3	0.5	14.4	250	75	5.3	0.4
GSMBJ5357B	57B	20	65	3	0.5	15.2	237	75	5.1	0.4
GSMBJ5358B	58B	22	50	3.5	0.5	16.7	216	75	4.7	0.45
GSMBJ5359B	59B	24	50	3.5	0.5	18.2	198	100	4.4	0.55
GSMBJ5360B	60B	25	50	4	0.5	19	190	110	4.3	0.55
GSMBJ5361B	61B	27	50	5	0.5	20.6	176	120	4.1	0.6
GSMBJ5362B	62B	28	50	6	0.5	21.2	170	130	3.9	0.6
GSMBJ5363B	63B	30	40	8	0.5	22.8	158	140	3.7	0.6
GSMBJ5364B	64B	33	40	10	0.5	25.1	144	150	3.5	0.6
GSMBJ5365B	65B	36	30	11	0.5	27.4	132	160	3.3	0.65
GSMBJ5366B	66B	39	30	14	0.5	29.7	122	170	3.1	0.65
GSMBJ5367B	67B	43	30	20	0.5	32.7	110	190	2.8	0.7
GSMBJ5368B	68B	47	25	25	0.5	35.8	100	210	2.7	0.8
GSMBJ5369B	69B	51	25	27	0.5	38.8	93	230	2.5	0.9
GSMBJ5370B	70B	56	20	35	0.5	42.6	86	280	2.3	1
GSMBJ5371B	71B	60	20	40	0.5	45.5	79	350	2.2	1.2
GSMBJ5372B	72B	62	20	42	0.5	47.1	76	400	2.1	1.35
GSMBJ5373B	73B	68	20	44	0.5	51.7	70	500	2	1.5
GSMBJ5374B	74B	75	20	45	0.5	56	63	620	1.9	1.6
GSMBJ5375B	75B	82	15	65	0.5	62.2	58	720	1.8	1.8
GSMBJ5376B	76B	87	15	75	0.5	66	54.5	760	1.7	2
GSMBJ5377B	77B	91	15	75	0.5	69.2	52.5	760	1.6	2.2
GSMBJ5378B	78B	100	12	90	0.5	76	47.5	800	1.5	2.3
GSMBJ5379B	79B	110	12	125	0.5	83.6	43	1000	1.4	2.5
GSMBJ5380B	80B	120	10	170	0.5	91.2	39.5	1150	1.3	2.5
GSMBJ5381B	81B	130	10	190	0.5	98.8	36.6	1250	1.2	2.5
GSMBJ5382B	82B	140	8.0	230	0.5	106	34	1500	1.2	2.5
GSMBJ5383B	83B	150	8.0	330	0.5	114	31.6	1500	1.1	3
GSMBJ5384B	84B	160	8.0	350	0.5	122	29.4	1650	1.1	3
GSMBJ5385B	85B	170	8.0	380	0.5	129	28	1750	1.0	3
GSMBJ5386B	86B	180	5.0	430	0.5	137	26.4	1750	1.0	4
GSMBJ5387B	87B	190	5.0	450	0.5	144	25	1850	0.9	5
GSMBJ5388B	88B	200	5.0	480	0.5	152	23.6	1850	0.9	5

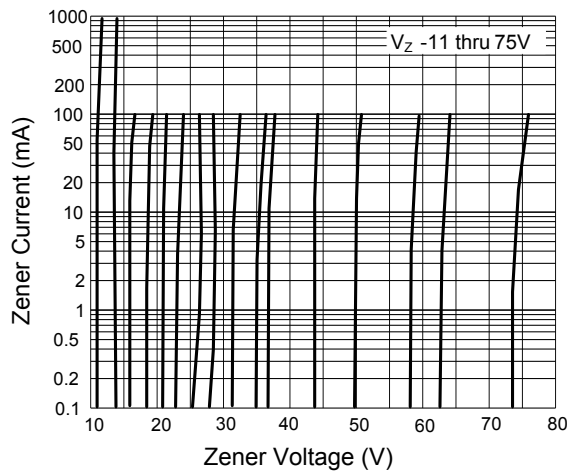
## Ratings and Characteristic Curves



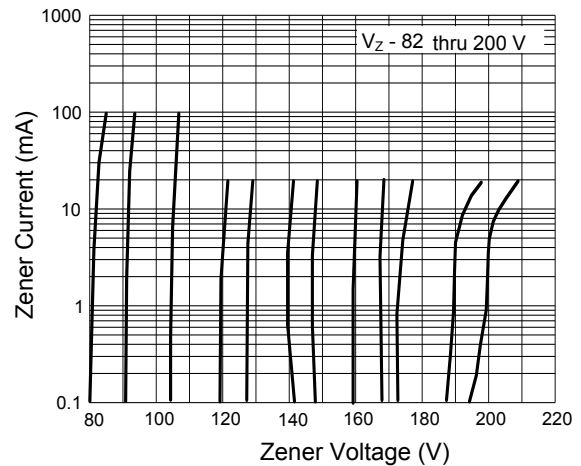
**Figure 1. Power Derating Curve**



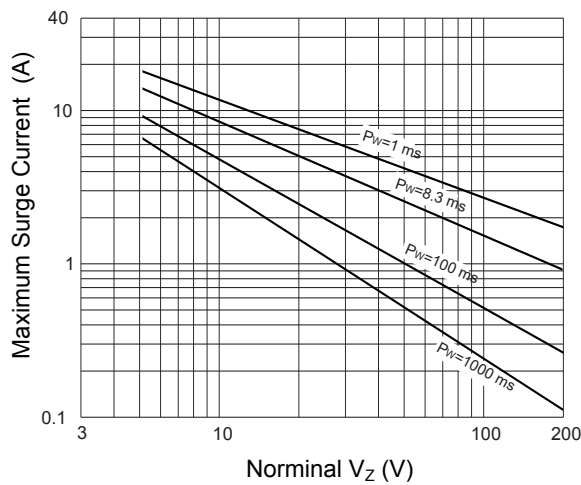
**Figure 2. Typical Zener Breakdown Characteristics**



**Figure 3. Typical Zener Breakdown Characteristics**



**Figure 4. Typical Zener Breakdown Characteristics**

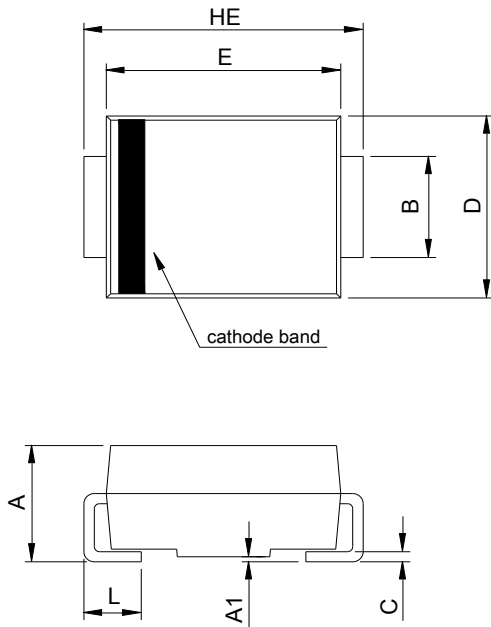


**Figure 5. Maximum Surge Current vs. Norminal Vz**

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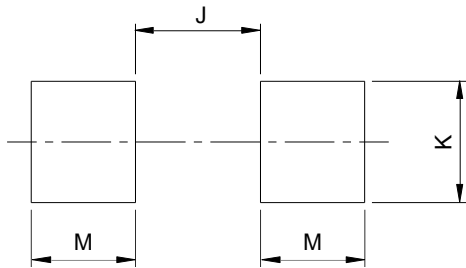
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## Package Outline Dimensions (SMB)



SMB (DO-214AA)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.95	2.65	0.077	0.104
A1	0.00	0.20	0.000	0.008
B	1.95	2.20	0.077	0.087
C	0.15	0.31	0.006	0.012
D	3.30	3.95	0.130	0.156
E	4.06	4.60	0.160	0.181
HE	5.10	5.60	0.201	0.220
L	0.76	1.60	0.030	0.063

## Recommended Pad Layout



Recommended Pad Layout (Reference ONLY)				
DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	2.60	-	0.102
K	2.20	-	0.087	-
M	1.80	-	0.071	-

## Order Information

Device	Package	Reel size	Carrier	Quantity
GSMBJ53xxB	SMB	13 Inches	Tape & Reel	3,000 pcs / Reel

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)