



Micro Commercial Components

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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

SMBJ5338B
THRU
SMBJ5369B

Features

- Low Profile Package for Surface Mounting(Flat Handling Surface for Accurate Placement)
Zener Voltage 5.1V to 51V
High Surge Current Capability
For Available Tolerances-see Note 1
Available on Tape and Reel (see E1A std RS-481)
Lead Free Finish/Rohs Compliant (Note1) ("P"Suffix designates Compliant. See ordering information)

5 Watt
Surface Mount Silicon
Zener Diode
5.1 to 51 Volts

Mechanical Data

- Standard JEDEC Outlines as Shown
Marking: See page 2
Maximum Temperature for Soldering: 260°C for 10 Seconds
Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1

Electrical Characteristics @ 25°C Unless Otherwise Specified

Table with 3 columns: Parameter, Symbol, and Value. Rows include Forward Voltage at 1.0A Current (VF = 1.2Volts), Steady State Power Dissipation (PAV = 5Watts See Note 2), Operating and Storage Temperatures (TJ, TSTG = -55°C to +150°C), and Thermal Resistance (RthetaL = 25°C/W).

- Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
2. Lead temperature at 25°C = TL at mounting plane. Derate linearly above 25°C to zero power at 150 °C

DO-214AA
(SMB) (Lead Frame)

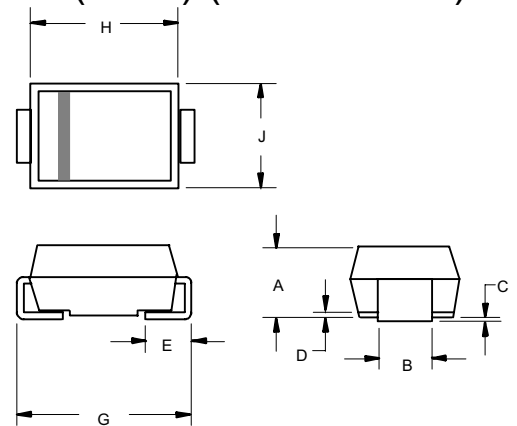
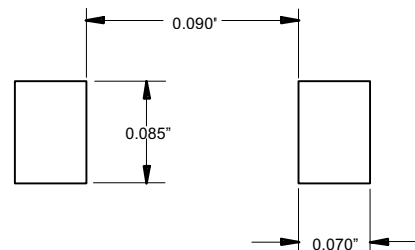


Table titled 'DIMENSIONS' with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. It lists dimensions A through J with their respective minimum and maximum values in inches and millimeters.

SUGGESTED SOLDER PAD LAYOUT



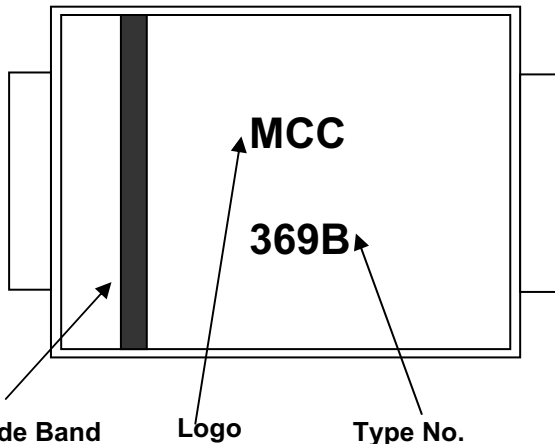
# SMBJ5338B thru SMBJ5369B



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## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	REGULATOR VOLTAGE $V_Z$	TEST CURRENT $I_Z$	MAXIMUM DYNAMIC IMPEDANCE $Z_{ZT}$	MAXIMUM REVERSE CURRENT $I_R$	TEST VOLTAGE $V_R$	MAXIMUM REGULATOR CURRENT $I_{ZM}$	MAXIMUM DYNAMIC KNEE IMPEDANCE $Z_{ZK}@1.0mA$	MAXIMUM SURGE CURRENT $I_{ZSM}$	MAXIMUM VOLTAGE REGULATION
	VOLTS	mA	OHMS	$\mu A$	VOLTS	mA	OHMS	A	VOLTS
SMBJ5338B	5.1	240	1.5	1	1	930	400	14.4	0.39
SMBJ5339B	5.6	220	1	1	2	865	400	13.4	0.25
SMBJ5340B	6	200	1	1	3	790	300	12.7	0.19
SMBJ5341B	6.2	200	1	1	3	765	200	12.4	0.1
SMBJ5342B	6.8	175	1	10	5.2	700	200	11.5	0.15
SMBJ5343B	7.5	175	1.5	10	5.7	630	200	10.7	0.15
SMBJ5344B	8.2	150	1.5	10	6.2	580	200	10	0.2
SMBJ5345B	8.7	150	2	10	6.6	545	200	9.5	0.2
SMBJ5346B	9.1	150	2	7.5	6.9	520	150	9.2	0.22
SMBJ5347B	10	125	2	5	7.6	475	125	8.6	0.22
SMBJ5348B	11	125	2.5	5	8.4	430	125	8	0.25
SMBJ5349B	12	100	2.5	2	9.1	395	125	7.5	0.25
SMBJ5350B	13	100	2.5	1	9.9	365	100	7	0.25
SMBJ5351B	14	100	2.5	1	10.6	340	75	6.7	0.25
SMBJ5352B	15	75	2.5	1	11.5	315	75	6.3	0.25
SMBJ5353B	16	75	2.5	1	12.2	295	75	6	0.3
SMBJ5354B	17	70	2.5	0.5	12.9	280	75	5.8	0.35
SMBJ5355B	18	65	2.5	0.5	13.7	264	75	5.5	0.4
SMBJ5356B	19	65	3	0.5	14.4	250	75	5.3	0.04
SMBJ5357B	20	65	3	0.5	15.2	237	75	5.1	0.04
SMBJ5358B	22	50	3.5	0.5	16.7	216	75	4.7	0.45
SMBJ5359B	24	50	3.5	0.5	18.2	198	100	4.4	0.55
SMBJ5360B	25	50	4	0.5	19	190	110	4.3	0.55
SMBJ5361B	27	50	5	0.5	20.6	176	120	4.1	0.6
SMBJ5362B	28	50	6	0.5	21.2	170	130	3.9	0.6
SMBJ5363B	30	40	8	0.5	22.8	158	140	3.7	0.6
SMBJ5364B	33	40	10	0.5	25.1	144	150	3.5	0.6
SMBJ5365B	36	30	11	0.5	27.4	132	160	3.3	0.65
SMBJ5366B	39	30	14	0.5	29.7	122	170	3.1	0.65
SMBJ5367B	43	30	20	0.5	32.7	110	190	2.8	0.7
SMBJ5368B	47	25	25	0.5	35.8	100	210	2.7	0.8
SMBJ5369B	51	25	27	0.5	38.8	93	230	2.5	0.9



### Marking Code Info.

For Example: 339B for SMBJ5339B  
369B for SMBJ5369B

# SMBJ5338B thru SMBJ5369B

**Note 1** Devices listed have a  $\pm 5\%$  tolerance on nominal  $V_Z$ . The suffix A denotes a  $\pm 20\%$  tolerance, suffix C denotes  $\pm 2\%$ , and suffix D denotes  $\pm 1\%$ .

**Note 2** Nominal Zener Voltage ( $V_Z$ ) is read with the device in standard test clips with 3/8 to 1/2 inch spacing between clip and case of the diode. Before reading, the diode is allowed to stabilize for a period of  $40 \pm 10$  milliseconds at  $25^\circ\text{C}$  ( $+8, -2^\circ\text{C}$ ).

**Note 3** The Zener impedance ( $Z_{ZT}$  or  $Z_{ZK}$ ) is derived from the 60 Hz ac voltage, which results when an ac current having a rms value equal to 10% of the dc zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$  respectively.

**Note 4** The Maximum Reverse (leakage) Current is specified for devices with  $\pm 20\%$  and  $\pm 10\%$  voltage tolerances on nominal  $V_Z$  in another column.

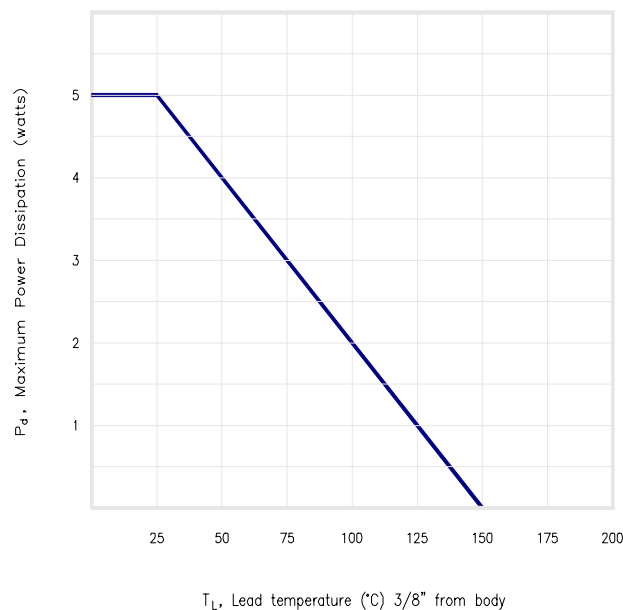
**Note 5** The Maximum Zener Current ( $I_{ZM}$ ) shown is for  $\pm 5\%$  tolerance devices.  $I_{ZM}$  for  $\pm 10\%$  and  $\pm 20\%$  devices can be calculated using the formula:

$$I_{ZM} = \frac{P}{V_{ZM}}$$

Where " $V_{ZM}$ " is  $V_Z$  at the high end of the voltage tolerance specified and "P" is the rated power of the device.

**Note 6** The Surge Current ( $I_{SM}$ ) is specified as the maximum peak of a nonrecurring sine wave of 8.3 milliseconds duration.

**Note 7** Voltage Regulation ( $\Delta V_Z$ ) is the difference between the voltage measured at 10% and 50%  $I_{ZM}$ .



**FIGURE 1 – Power Derating Curve**



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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