



**THE DATASHEET OF
3SMBJ5933B-TP**



Features

- 5.1 Thru 200 Volt Voltage Range
- Glass Passivated Junction
- Available On Tape and Reel
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance : 226°C/W Junction to Ambient
- Thermal Resistance : 20°C/W Junction to Lead
- Thermal Resistance : 22°C/W Junction to Case

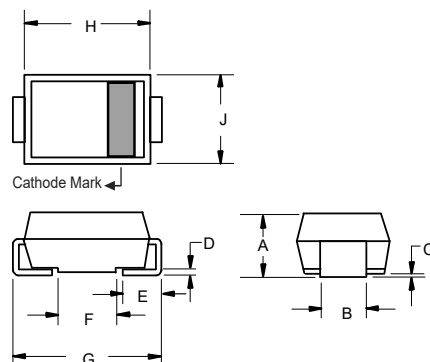
| Parameter | Symbol | Rating | Conditions |
|--------------------------------|--------|--------|-------------|
| Steady State Power Dissipation | P_D | 3.0W | Note 3 |
| Maximum Forward Voltage | V_F | 1.5V | $I_F=200mA$ |

Note:

- 1.Halogen free "Green"products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 2.High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
- 3.Mounted on 5.0mm² (1oz thick) land areas.Lead temperature at $T_L=75^\circ C$

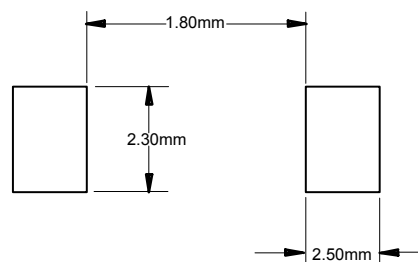
3.0 Watt Surface Mount Silicon Zener Diodes 5.1V to 200V

SMB (DO-214AA) (LEAD FRAME)



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.079 | 0.103 | 2.00 | 2.62 | |
| B | 0.075 | 0.087 | 1.91 | 2.21 | |
| C | 0.002 | 0.008 | 0.05 | 0.20 | |
| D | 0.006 | 0.012 | 0.15 | 0.31 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.200 | 0.220 | 5.08 | 5.59 | |
| H | 0.160 | 0.191 | 4.06 | 4.85 | |
| J | 0.130 | 0.155 | 3.30 | 3.94 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | Zener Voltage ⁽⁴⁾ | Test Current | Maximum Dynamic Impedance | Knee Current | Knee Impedance | Maximum Reverse Current | Reverse Voltage | Marking Code |
|--------------------|---------------------------------|-----------------|-----------------------------------|-----------------|-------------------|----------------------------|--------------------|-----------------|
| | V _Z | I _{ZT} | Z _{ZT} @ I _{ZT} | I _{ZK} | Z _{Zk} | I _R | V _R | |
| | V | mA | Ω | mA | Ω | μA | V | |
| 3SMBJ5918B | 5.1 | 73.5 | 4 | 1 | 350 | 5 | 2 | H18B |
| 3SMBJ5919B | 5.6 | 66.9 | 2 | 1 | 250 | 5 | 3 | H19B |
| 3SMBJ5920B | 6.2 | 60.5 | 2 | 1 | 200 | 5 | 4 | H20B |
| 3SMBJ5921B | 6.8 | 55.1 | 2.5 | 1 | 200 | 5 | 5.2 | H21B |
| 3SMBJ5922B | 7.5 | 50 | 3 | 0.5 | 400 | 5 | 6 | H22B |
| 3SMBJ5923B | 8.2 | 45.7 | 3.5 | 0.5 | 400 | 5 | 6.5 | H23B |
| 3SMBJ5924B | 9.1 | 41.2 | 4 | 0.5 | 500 | 5 | 7 | H24B |
| 3SMBJ5925B | 10 | 37.5 | 4.5 | 0.25 | 500 | 5 | 8 | H25B |
| 3SMBJ5926B | 11 | 34.1 | 5.5 | 0.25 | 550 | 1 | 8.4 | H26B |
| 3SMBJ5927B | 12 | 31.2 | 6.5 | 0.25 | 550 | 1 | 9.1 | H27B |
| 3SMBJ5928B | 13 | 28.8 | 7 | 0.25 | 550 | 1 | 9.9 | H28B |
| 3SMBJ5929B | 15 | 25 | 9 | 0.25 | 600 | 1 | 11.4 | H29B |
| 3SMBJ5930B | 16 | 23.4 | 10 | 0.25 | 600 | 1 | 12.2 | H30B |
| 3SMBJ5931B | 18 | 20.8 | 12 | 0.25 | 650 | 1 | 13.7 | H31B |
| 3SMBJ5932B | 20 | 18.7 | 14 | 0.25 | 650 | 1 | 15.2 | H32B |
| 3SMBJ5933B | 22 | 17 | 17.5 | 0.25 | 650 | 1 | 16.7 | H33B |
| 3SMBJ5934B | 24 | 15.6 | 19 | 0.25 | 700 | 1 | 18.2 | H34B |
| 3SMBJ5935B | 27 | 13.9 | 23 | 0.25 | 700 | 1 | 20.6 | H35B |
| 3SMBJ5936B | 30 | 12.5 | 28 | 0.25 | 750 | 1 | 22.8 | H36B |
| 3SMBJ5937B | 33 | 11.4 | 33 | 0.25 | 800 | 1 | 25.1 | H37B |
| 3SMBJ5938B | 36 | 10.4 | 38 | 0.25 | 850 | 1 | 27.4 | H38B |
| 3SMBJ5939B | 39 | 9.6 | 45 | 0.25 | 900 | 1 | 29.7 | H39B |
| 3SMBJ5940B | 43 | 8.7 | 53 | 0.25 | 950 | 1 | 32.7 | H40B |
| 3SMBJ5941B | 47 | 8 | 67 | 0.25 | 1000 | 1 | 35.8 | H41B |
| 3SMBJ5942B | 51 | 7.3 | 70 | 0.25 | 1100 | 1 | 38.8 | H42B |
| 3SMBJ5943B | 56 | 6.7 | 86 | 0.25 | 1300 | 1 | 42.6 | H43B |
| 3SMBJ5944B | 62 | 6 | 100 | 0.25 | 1500 | 1 | 47.1 | H44B |
| 3SMBJ5945B | 68 | 5.5 | 120 | 0.25 | 1700 | 1 | 51.7 | H45B |
| 3SMBJ5946B | 75 | 5 | 140 | 0.25 | 2000 | 1 | 56 | H46B |
| 3SMBJ5947B | 82 | 4.6 | 160 | 0.25 | 2500 | 1 | 62.2 | H47B |
| 3SMBJ5948B | 91 | 4.1 | 200 | 0.25 | 3000 | 1 | 69.2 | H48B |
| 3SMBJ5949B | 100 | 3.7 | 250 | 0.25 | 3100 | 1 | 76 | H49B |
| 3SMBJ5950B | 110 | 3.4 | 300 | 0.25 | 4000 | 1 | 83.6 | H50B |
| 3SMBJ5951B | 120 | 3.1 | 380 | 0.25 | 4500 | 1 | 91.2 | H51B |
| 3SMBJ5952B | 130 | 2.9 | 450 | 0.25 | 5000 | 1 | 98.8 | H52B |
| 3SMBJ5953B | 150 | 2.5 | 600 | 0.25 | 6000 | 1 | 114 | H53B |
| 3SMBJ5954B | 160 | 2.3 | 700 | 0.25 | 6500 | 1 | 121.6 | H54B |
| 3SMBJ5955B | 180 | 2.1 | 900 | 0.25 | 7000 | 1 | 136.8 | H55B |
| 3SMBJ5956B | 200 | 1.9 | 1200 | 0.25 | 8000 | 1 | 152 | H56B |

Note : 4. TOLERANCE AND VOLTAGE DESIGNATION - The type numbers listed indicate a tolerance of +/-5%

Curve Characteristics

Fig. 1 - Power Derating Curve

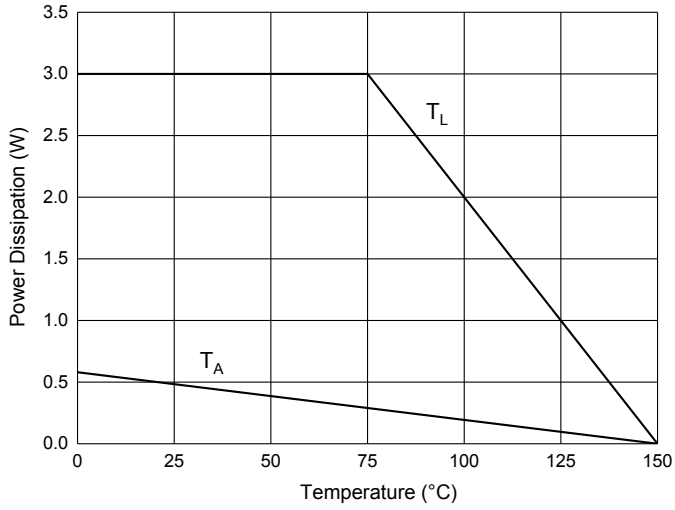


Fig. 2 - Typical Zener Breakdown Characteristics

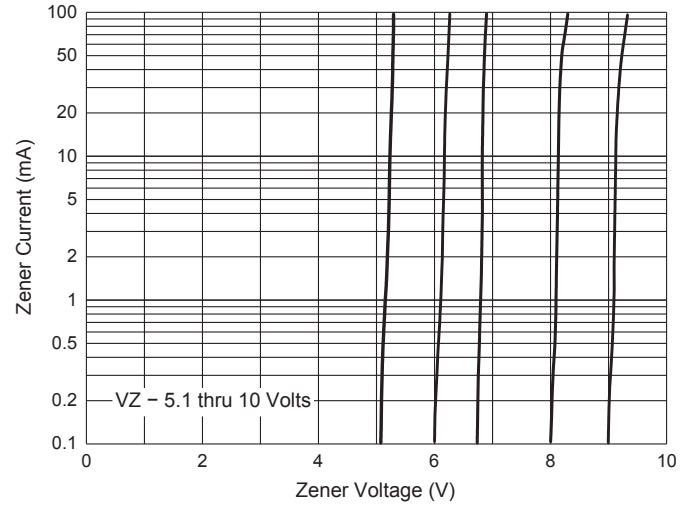


Fig. 3 - Typical Zener Breakdown Characteristics

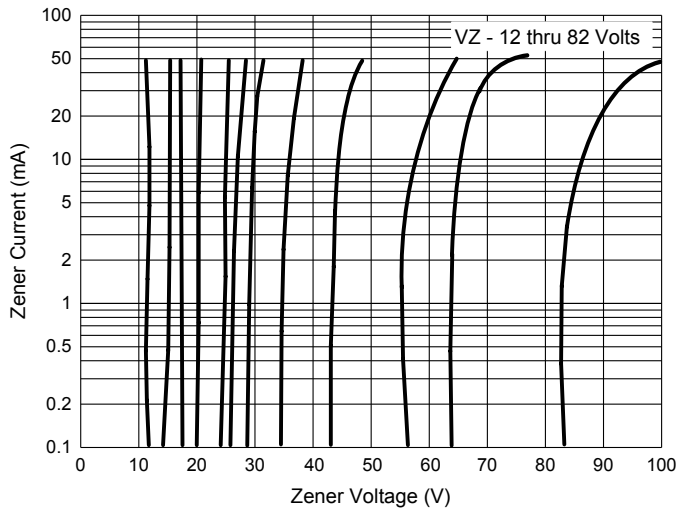
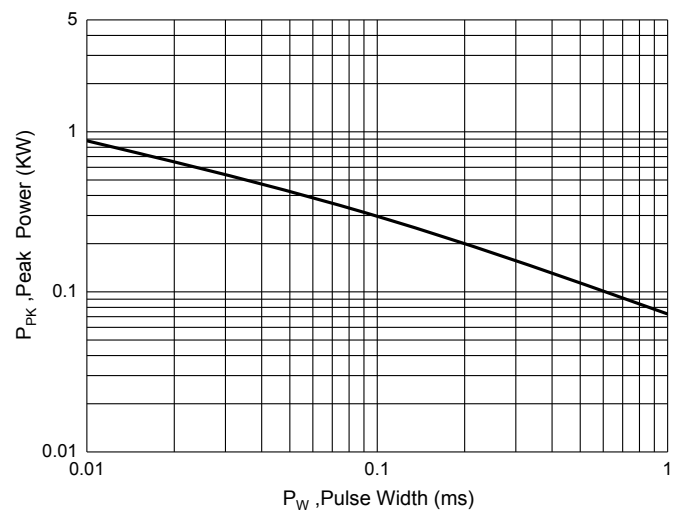


Fig. 4 - Peak Pulse Power Rating Curve



Ordering Information

| Device | Packing |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:3Kpcs/Reel |

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