



Micro Commercial Components

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3SMBJ5918B THRU 3SMBJ5943B

3.0 Watt Surface Mount Silicon Zener Diodes

Features

- Surface Mount Application
- 5.1thru 56 Volt Voltage Range
- Low Inductance, Low Profile Mounting
- Glass Passivated Junction
- Available on Tape and Reel

Mechanical Data

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Packaging: Standard 12mm Tape (see EIA 481)
- Maximum temperature for soldering: 260°C for 10 seconds.

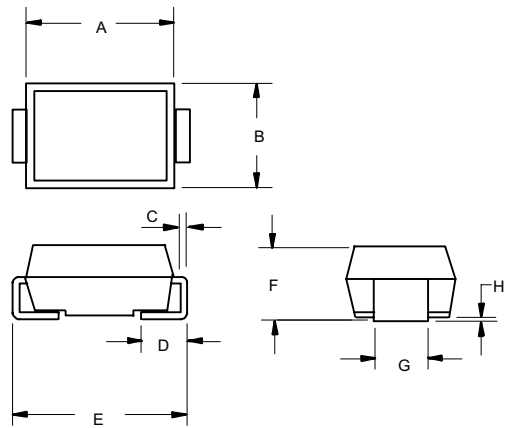
Maximum Ratings @ 25°C Unless Otherwise Specified

| | | | |
|-----------------------------------|-----------------------------------|-----------------|-----------|
| Maximum Forward Voltage | V _F | 1.5V | (Note: 1) |
| Steady State Power Dissipation | P _d | 3.0W | (Note: 2) |
| Operation and Storage Temperature | T _J , T _{STG} | -55°C to +150°C | |
| Junction To Ambient | R _{thJA} | 100 °C/W | |

NOTES:

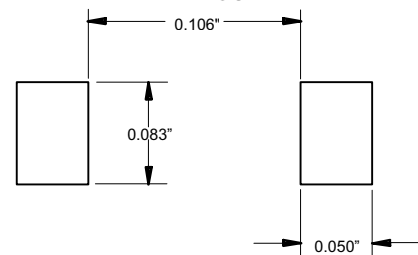
1. Forward Current @ 200mA.
2. Mounted on 5.0mm² (.013mm thick) land areas.
Lead temperature at T_L=75°C

DO-214AA (SMB) (LEAD FRAME)



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|------|-------|------|
| | INCHES | | MM | | |
| A | .160 | .185 | 4.06 | 4.70 | |
| B | .130 | .155 | 3.30 | 3.94 | |
| C | .006 | .012 | 0.15 | 0.31 | |
| D | .030 | .060 | 0.76 | 1.52 | |
| E | .200 | .220 | 5.08 | 5.59 | |
| F | .079 | .096 | 2.00 | 2.44 | |
| G | .075 | .087 | 1.91 | 2.21 | |
| H | .002 | .008 | 0.05 | 0.203 | |

SUGGESTED SOLDER PAD LAYOUT



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ELECTRICAL CHARACTERISTICS (T_L=30C unless otherwise noted) (V_F=1.5Volts Max @ I_F=200mAdc for all types.)

| Device | Nominal Zener Voltage Vz @ I _{ZT} volts (Note 1.) | Test current I _{ZT} mA | Maximum Zener Impedance (Note 2.) | | | Max reverse Leakage Current | | Maximum DC Zener Current I _{ZM} mAdc | Device Marking Code |
|------------|--|---------------------------------|--|--|--------------------|-----------------------------|----------------------|---|---------------------|
| | | | Z _{ZT} @ I _{ZT} Ohms | Z _{ZK} @ I _{ZK} Ohms | I _{ZK} mA | I _R uA | V _R Volts | | |
| 3SMBJ5918B | 5.1 | 73.5 | 4.0 | 350 | 1.00 | 5.0 | 2.0 | 294 | H18B |
| 3SMBJ5919B | 5.6 | 66.9 | 2.0 | 250 | 1.00 | 5.0 | 3.0 | 267 | H19B |
| 3SMBJ5920B | 6.2 | 60.5 | 2.0 | 200 | 1.00 | 5.0 | 4.0 | 241 | H20B |
| 3SMBJ5921B | 6.8 | 55.1 | 2.5 | 200 | 1.00 | 5.0 | 5.2 | 220 | H21B |
| 3SMBJ5922B | 7.5 | 50 | 3.0 | 400 | 0.50 | 5.0 | 6.0 | 200 | H22B |
| 3SMBJ5923B | 8.2 | 45.7 | 3.5 | 400 | 0.50 | 5.0 | 6.5 | 182 | H23B |
| 3SMBJ5924B | 9.1 | 41.2 | 4.0 | 500 | 0.50 | 5.0 | 7.0 | 164 | H24B |
| 3SMBJ5925B | 10 | 37.5 | 4.5 | 500 | 0.25 | 5.0 | 8.0 | 150 | H25B |
| 3SMBJ5926B | 11 | 34.1 | 5.5 | 550 | 0.25 | 1 | 8.4 | 136 | H26B |
| 3SMBJ5927B | 12 | 31.2 | 6.5 | 550 | 0.25 | 1 | 9.1 | 125 | H27B |
| 3SMBJ5928B | 13 | 28.8 | 7 | 550 | 0.25 | 1 | 9.9 | 115 | H28B |
| 3SMBJ5929B | 15 | 25 | 9 | 600 | 0.25 | 1 | 11.4 | 100 | H29B |
| 3SMBJ5930B | 16 | 23.4 | 10 | 600 | 0.25 | 1 | 12.2 | 93 | H30B |
| 3SMBJ5931B | 18 | 20.8 | 12 | 650 | 0.25 | 1 | 13.7 | 83 | H31B |
| 3SMBJ5932B | 20 | 18.7 | 14 | 650 | 0.25 | 1 | 15.2 | 75 | H32B |
| 3SMBJ5933B | 22 | 17 | 17.5 | 650 | 0.25 | 1 | 16.7 | 68 | H33B |
| 3SMBJ5934B | 24 | 15.6 | 19 | 700 | 0.25 | 1 | 18.2 | 62 | H34B |
| 3SMBJ5935B | 27 | 13.9 | 23 | 700 | 0.25 | 1 | 20.6 | 55 | H35B |
| 3SMBJ5936B | 30 | 12.5 | 28 | 750 | 0.25 | 1 | 22.8 | 50 | H36B |
| 3SMBJ5937B | 33 | 11.4 | 33 | 800 | 0.25 | 1 | 25.1 | 45 | H37B |
| 3SMBJ5938B | 36 | 10.4 | 38 | 850 | 0.25 | 1 | 27.4 | 41 | H38B |
| 3SMBJ5939B | 39 | 9.6 | 45 | 900 | 0.25 | 1 | 29.7 | 38 | H39B |
| 3SMBJ5940B | 43 | 8.7 | 53 | 950 | 0.25 | 1 | 32.7 | 34 | H40B |
| 3SMBJ5941B | 47 | 8.0 | 67 | 1000 | 0.25 | 1 | 35.8 | 31 | H41B |
| 3SMBJ5942B | 51 | 7.3 | 70 | 1100 | 0.25 | 1 | 38.8 | 29 | H42B |
| 3SMBJ5943B | 56 | 6.7 | 86 | 1300 | 0.25 | 1 | 42.6 | 26 | H43B |

Note 1: TOLERANCE AND VOLTAGE DESIGNATION - The type numbers listed indicate a tolerance of +/- 5%.

RATING AND CHARACTERISTICS CURVES

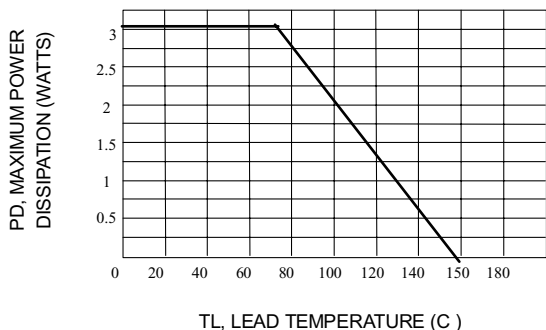


Fig. 1-STEADY STATE POWER DERATING

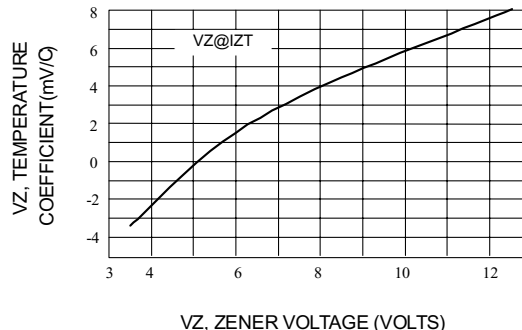


Fig. 2-ZENER VOLTAGE-TO 12 VOLTS

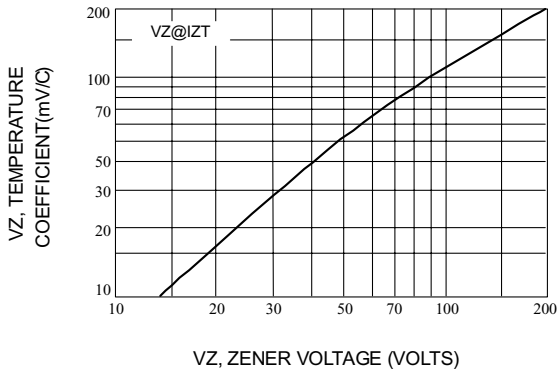


Fig. 3-ZENER VOLTAGE-10 TO 200 VOLTS

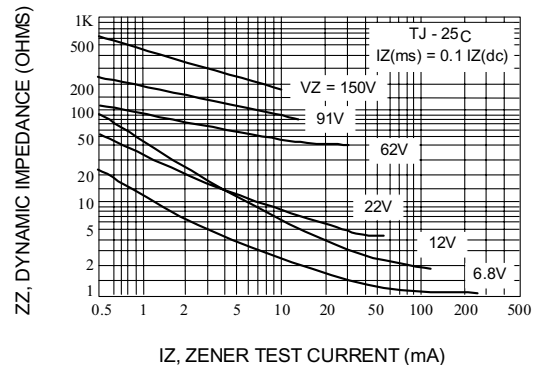


Fig. 4-EFFECT OF ZENER CURRENT

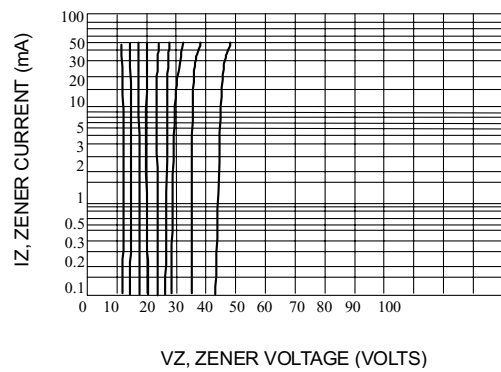
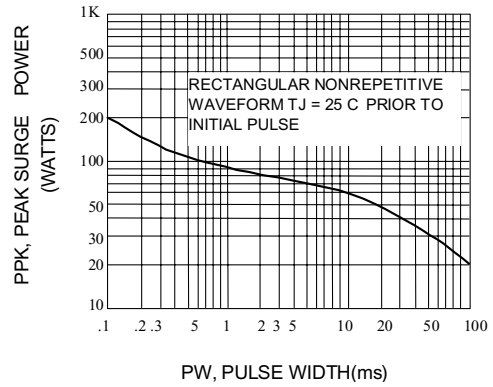
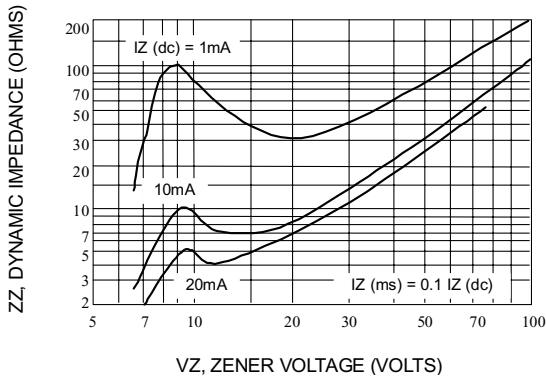


Fig. 7-VZ = 12 THRU 40 VOLTS



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