



**THE DATASHEET OF
SMAJ5928B-TP**



Features

- V_Z – Tolerance: $\pm 5\%$
- For Surface Mount Applications
- 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 $+150^{\circ}\text{C}$
- Storage Temperature Range: -65°C to $+150^{\circ}\text{C}$
- Thermal Resistance : 50°C/W Junction to Lead(Note 3)
- Thermal Resistance : 83°C/W Junction to Ambient(Note 3)

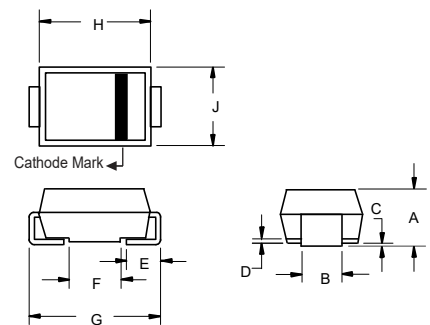
| Parameter | Symbol | Rating | Conditions |
|-------------------------|--------|--------|-------------------------------|
| Power Dissipation | P_D | 1.5W | $T_L \leq 75^{\circ}\text{C}$ |
| Maximum Forward Voltage | V_F | 1.5V | $I_F = 200\text{mA}$ |

Note:

1. Halogen free “Green” products are defined as those which contain $<900\text{ppm}$ bromine, $<900\text{ppm}$ chlorine ($<1500\text{ppm}$ total Br + Cl) and $<1000\text{ppm}$ antimony compounds.
2. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.
3. Mounted on PCB with recommended pad layout.

1.5 Watt Zener Diode 5.1 to 200 Volts

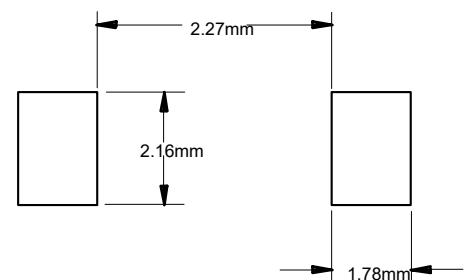
SMA (DO-214AC) LEAD FRAME



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.075 | 0.096 | 1.90 | 2.44 | |
| B | 0.050 | 0.064 | 1.27 | 1.63 | |
| C | 0.002 | 0.008 | 0.051 | 0.203 | |
| D | --- | 0.020 | --- | 0.51 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.189 | 0.220 | 4.80 | 5.59 | |
| H | 0.157 | 0.187 | 4.00 | 4.75 | |
| J | 0.090 | 0.115 | 2.25 | 2.92 | |

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | Zener Voltage (3) | 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 | |
| SMAJ5918B | 5.1 | 73.5 | 4 | 1 | 350 | 5.0 | 2 | 18B |
| SMAJ5919B | 5.6 | 66.9 | 2 | 1 | 250 | 5.0 | 3 | 19B |
| SMAJ5920B | 6.2 | 60.5 | 2 | 1 | 200 | 5.0 | 4 | 20B |
| SMAJ5921B | 6.8 | 55.1 | 2.5 | 1 | 200 | 5.0 | 5.2 | 21B |
| SMAJ5922B | 7.5 | 50 | 3 | 0.5 | 400 | 5.0 | 6 | 22B |
| SMAJ5923B | 8.2 | 45.7 | 3.5 | 0.5 | 400 | 5.0 | 6.5 | 23B |
| SMAJ5924B | 9.1 | 41.2 | 4 | 0.25 | 500 | 5.0 | 7 | 24B |
| SMAJ5925B | 10 | 37.5 | 4.5 | 0.25 | 500 | 5.0 | 8 | 25B |
| SMAJ5926B | 11 | 34.1 | 5.5 | 0.25 | 550 | 1.0 | 8.4 | 26B |
| SMAJ5927B | 12 | 31.2 | 6.5 | 0.25 | 550 | 1.0 | 9.1 | 27B |
| SMAJ5928B | 13 | 28.8 | 7 | 0.25 | 550 | 0.5 | 9.9 | 28B |
| SMAJ5929B | 15 | 25 | 9 | 0.25 | 600 | 0.5 | 11.4 | 29B |
| SMAJ5930B | 16 | 23.4 | 10 | 0.25 | 600 | 0.5 | 12.2 | 30B |
| SMAJ5931B | 18 | 20.8 | 12 | 0.25 | 650 | 0.5 | 13.7 | 31B |
| SMAJ5932B | 20 | 18.7 | 14 | 0.25 | 650 | 0.5 | 15.2 | 32B |
| SMAJ5933B | 22 | 17 | 17.5 | 0.25 | 650 | 0.5 | 16.7 | 33B |
| SMAJ5934B | 24 | 15.6 | 19 | 0.25 | 700 | 0.5 | 18.2 | 34B |
| SMAJ5935B | 27 | 13.9 | 23 | 0.25 | 700 | 0.5 | 20.6 | 35B |
| SMAJ5936B | 30 | 12.5 | 28 | 0.25 | 750 | 0.5 | 22.8 | 36B |
| SMAJ5937B | 33 | 11.4 | 33 | 0.25 | 800 | 0.5 | 25.1 | 37B |
| SMAJ5938B | 36 | 10.4 | 38 | 0.25 | 850 | 0.5 | 27.4 | 38B |
| SMAJ5939B | 39 | 9.6 | 45 | 0.25 | 900 | 0.5 | 29.7 | 39B |
| SMAJ5940B | 43 | 8.7 | 53 | 0.25 | 950 | 0.5 | 32.7 | 40B |
| SMAJ5941B | 47 | 8 | 67 | 0.25 | 1000 | 0.5 | 35.8 | 41B |
| SMAJ5942B | 51 | 7.3 | 70 | 0.25 | 1100 | 0.5 | 38.8 | 42B |
| SMAJ5943B | 56 | 6.7 | 86 | 0.25 | 1300 | 0.5 | 42.6 | 43B |
| SMAJ5944B | 62 | 6 | 100 | 0.25 | 1500 | 0.5 | 47.1 | 44B |
| SMAJ5945B | 68 | 5.5 | 120 | 0.25 | 1700 | 0.5 | 51.7 | 45B |
| SMAJ5946B | 75 | 5 | 140 | 0.25 | 2000 | 0.5 | 56 | 46B |
| SMAJ5947B | 82 | 4.6 | 160 | 0.25 | 2500 | 0.5 | 62.2 | 47B |
| SMAJ5948B | 91 | 4.1 | 200 | 0.25 | 3000 | 0.5 | 69.2 | 48B |
| SMAJ5949B | 100 | 3.7 | 250 | 0.25 | 3100 | 0.5 | 76 | 49B |
| SMAJ5950B | 110 | 3.4 | 300 | 0.25 | 4000 | 0.5 | 83.6 | 50B |
| SMAJ5951B | 120 | 3.1 | 380 | 0.25 | 4500 | 0.5 | 91.2 | 51B |
| SMAJ5952B | 130 | 2.9 | 450 | 0.25 | 5000 | 0.5 | 98.8 | 52B |
| SMAJ5953B | 150 | 2.5 | 600 | 0.25 | 6000 | 0.5 | 114 | 53B |
| SMAJ5954B | 160 | 2.3 | 700 | 0.25 | 6500 | 0.5 | 121.6 | 54B |
| SMAJ5955B | 180 | 2.1 | 900 | 0.25 | 7000 | 0.5 | 136.8 | 55B |
| SMAJ5956B | 200 | 1.9 | 1200 | 0.25 | 8000 | 0.5 | 152 | 56B |

Note:4. Based on DC-measurement at Thermal Equilibrium While Maintaining The Lead Temperature(T_L) at 30°C , 9.5mm(3/8) from The Diode Body

Curve Characteristics

Fig. 1 - Power Derating Curve

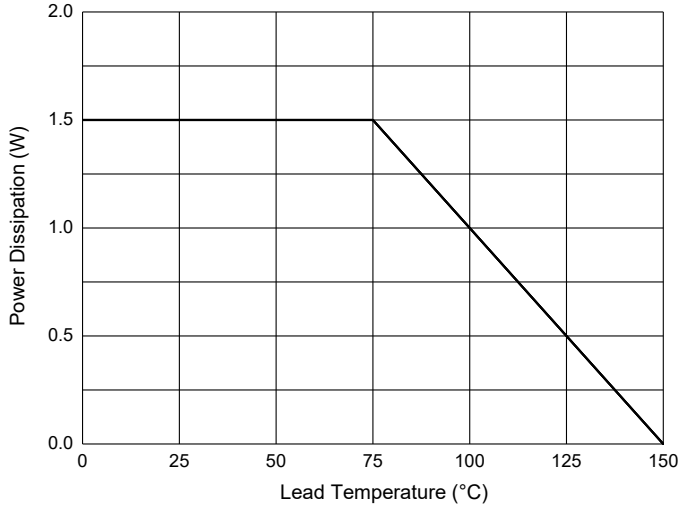


Fig. 2 - Typical Zener Breakdown Characteristics

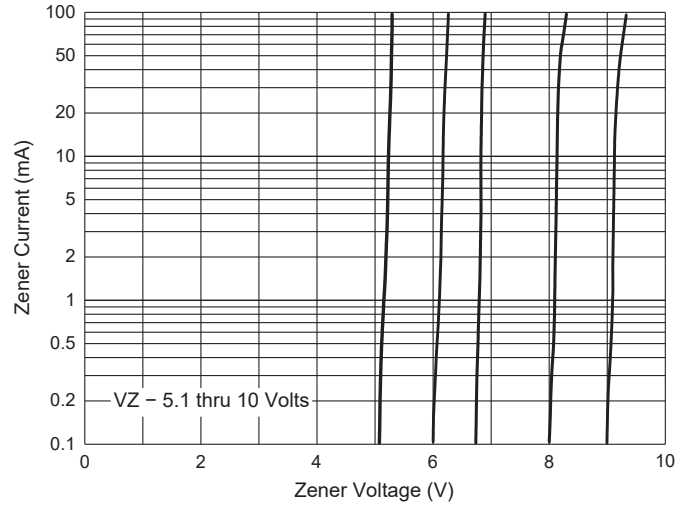


Fig. 3 - Typical Zener Breakdown Characteristics



Ordering Information

| Device | Packing |
|----------------|------------------------|
| Part Number-TP | Tape&Reel:7.5Kpcs/Reel |

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