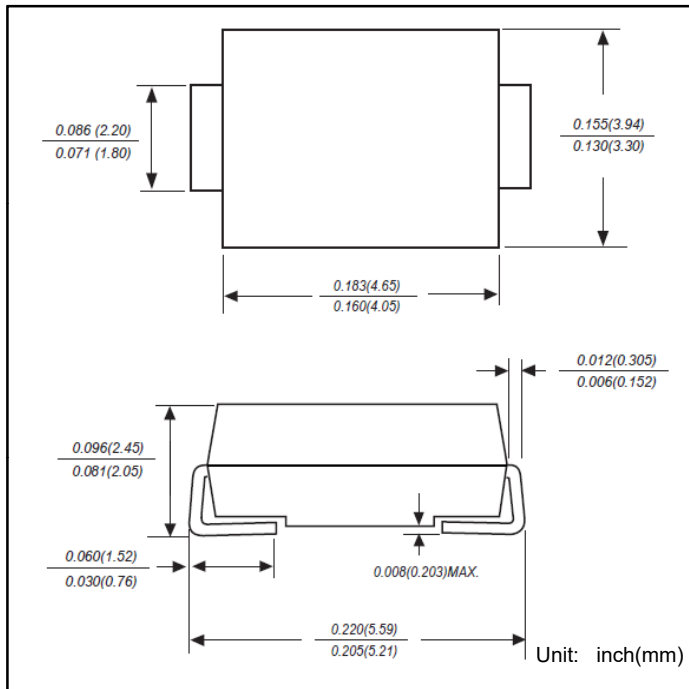


Surface Mount Silicon Zener Diodes

Zener Voltage 3.3 ~ 200 V

2.0 Watt Power Dissipation

## DO214AA(SMB)



### Features

- Glass passivated chip
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Low reverse leakage
- For use in stabilizing and clipping with high power rating
- RoHS compliant

### Mechanical Data

- Case: DO214AA(SMB) Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Mounting position: Any

| Parameter                                                      | Symbols        | Value       | Unit             |
|----------------------------------------------------------------|----------------|-------------|------------------|
| DC Power dissipation at $T_L = 75\text{ }^\circ\text{C}^{(1)}$ | $P_D$          | 2.0         | W                |
| Maximum forward voltage at $I_F=200\text{mA}$                  | $V_F$          | 1.2         | V                |
| Junction temperature range                                     | $T_J, T_{STG}$ | -55 to +150 | $^\circ\text{C}$ |
| Storage temperature range                                      | $T_J, T_{STG}$ | -55 to +150 | $^\circ\text{C}$ |

Note :

( 1 )  $T_L$ =Lead temperature at 3/8" (9.5mm)from body



Ratings and Characteristics Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

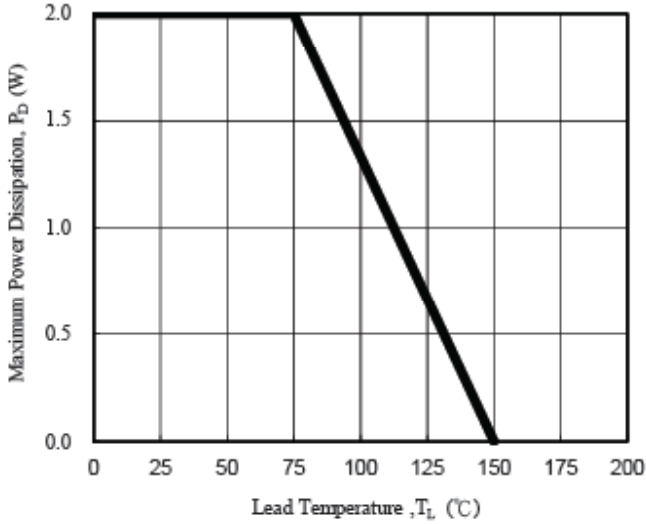


Fig. 1 - Power Temperature Derating Curve

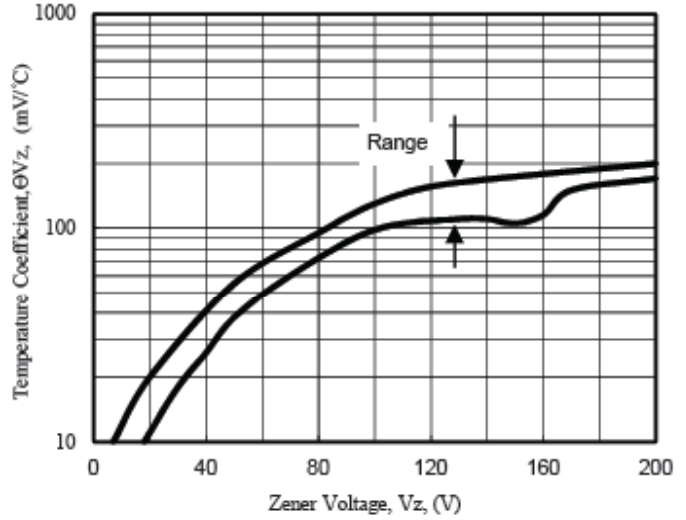


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

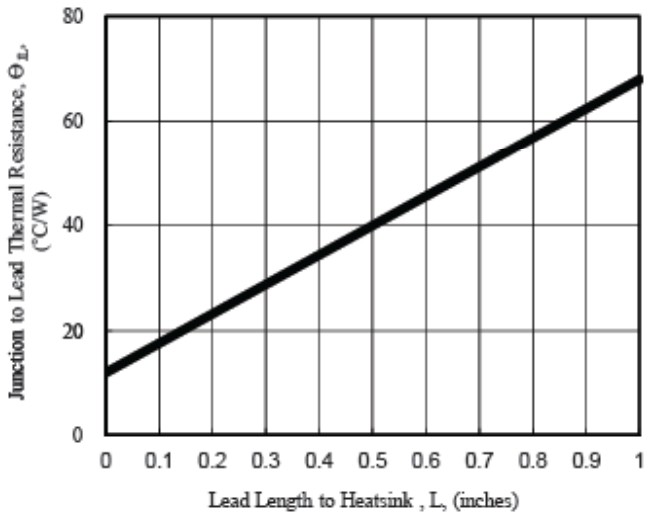


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

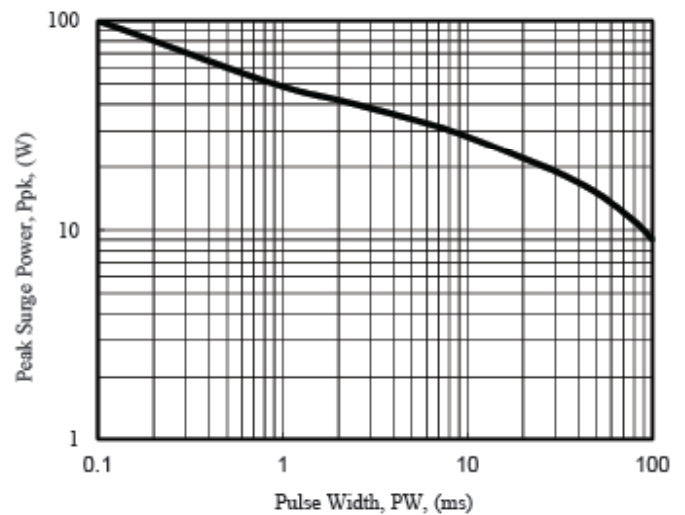


Fig. 4 - Maximum Surge Power

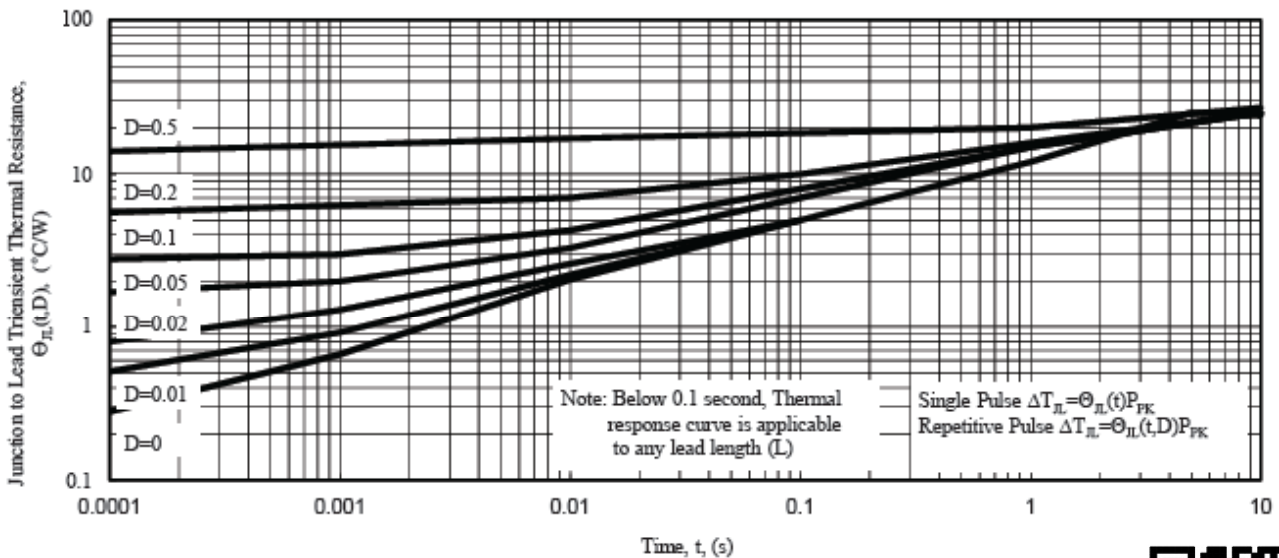


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch





# SMB2ZxxA SERIES

| Part Number | Device Marking Code | Nominal Zener Voltage @I <sub>T</sub> |                         |                         | I <sub>ZT</sub> (mA) | Maximum Zener Impedance                      |                                              |                      | Maximum Reverse Leakage Current    |                    | Maximum DC Zener Current |
|-------------|---------------------|---------------------------------------|-------------------------|-------------------------|----------------------|----------------------------------------------|----------------------------------------------|----------------------|------------------------------------|--------------------|--------------------------|
|             |                     | V <sub>Z AVE.</sub> (V)               | V <sub>Z MIN.</sub> (V) | V <sub>Z MAX.</sub> (V) |                      | Z <sub>ZT MAX.</sub> (Ω)<br>@I <sub>ZT</sub> | Z <sub>ZK MAX.</sub> (Ω)<br>@I <sub>ZK</sub> | I <sub>ZK</sub> (mA) | I <sub>R</sub> (μA)@V <sub>R</sub> | V <sub>R</sub> (V) |                          |
| SMB2Z3.3A   | 2H2                 | 3.3                                   | 3.14                    | 3.47                    | 145                  | 8.0                                          | 400                                          | 1.00                 | 100.0                              | 1.0                | 548.0                    |
| SMB2Z3.6A   | 2H3                 | 3.6                                   | 3.42                    | 3.78                    | 139                  | 5.0                                          | 400                                          | 1.00                 | 100.0                              | 1.0                | 502.0                    |
| SMB2Z3.9A   | 2H4                 | 3.9                                   | 3.71                    | 4.10                    | 128                  | 5.0                                          | 400                                          | 1.00                 | 50.0                               | 1.0                | 464.0                    |
| SMB2Z4.3A   | 2H5                 | 4.3                                   | 4.09                    | 4.52                    | 116                  | 4.5                                          | 400                                          | 1.00                 | 50.0                               | 1.0                | 421.0                    |
| SMB2Z4.7A   | 2H6                 | 4.7                                   | 4.47                    | 4.94                    | 106                  | 4.5                                          | 550                                          | 1.00                 | 10.0                               | 1.0                | 385.0                    |
| SMB2Z5.1A   | 2H7                 | 5.1                                   | 4.85                    | 5.36                    | 98.0                 | 3.5                                          | 600                                          | 1.00                 | 10.0                               | 1.0                | 354.0                    |
| SMB2Z5.6A   | 2H8                 | 5.6                                   | 5.32                    | 5.88                    | 89.5                 | 2.5                                          | 500                                          | 1.00                 | 10.0                               | 2.0                | 323.0                    |
| SMB2Z6.2A   | 2A0                 | 6.2                                   | 5.89                    | 6.51                    | 80.5                 | 1.5                                          | 700                                          | 1.00                 | 10.0                               | 3.0                | 292.0                    |
| SMB2Z6.8A   | 2A1                 | 6.8                                   | 6.46                    | 7.14                    | 73.5                 | 2.0                                          | 700                                          | 1.00                 | 10.0                               | 4.0                | 266.0                    |
| SMB2Z7.5A   | 2A2                 | 7.5                                   | 7.13                    | 7.88                    | 66.5                 | 2.0                                          | 700                                          | 0.50                 | 10.0                               | 5.0                | 242.0                    |
| SMB2Z8.2A   | 2A3                 | 8.2                                   | 7.79                    | 8.61                    | 61.0                 | 2.3                                          | 700                                          | 0.50                 | 10.0                               | 6.0                | 220.0                    |
| SMB2Z9.1A   | 2A4                 | 9.1                                   | 8.65                    | 9.56                    | 55.0                 | 2.5                                          | 700                                          | 0.50                 | 10.0                               | 7.0                | 200.0                    |
| SMB2Z10A    | 2A5                 | 10.0                                  | 9.50                    | 10.50                   | 50.0                 | 3.5                                          | 700                                          | 0.25                 | 10.0                               | 7.6                | 182.0                    |
| SMB2Z11A    | 2A6                 | 11.0                                  | 10.45                   | 11.55                   | 45.5                 | 4.0                                          | 700                                          | 0.25                 | 0.5                                | 8.4                | 166.0                    |
| SMB2Z12A    | 2A7                 | 12.0                                  | 11.40                   | 12.60                   | 41.5                 | 4.5                                          | 700                                          | 0.25                 | 0.5                                | 9.1                | 152.0                    |
| SMB2Z13A    | 2A8                 | 13.0                                  | 12.35                   | 13.65                   | 38.5                 | 5.0                                          | 700                                          | 0.25                 | 0.5                                | 9.9                | 138.0                    |
| SMB2Z14A    | 2A9                 | 14.0                                  | 13.30                   | 14.70                   | 35.7                 | 5.5                                          | 700                                          | 0.25                 | 0.5                                | 10.6               | 130.0                    |
| SMB2Z15A    | 2B0                 | 15.0                                  | 14.25                   | 15.75                   | 33.4                 | 7.0                                          | 700                                          | 0.25                 | 0.5                                | 11.4               | 122.0                    |
| SMB2Z16A    | 2B1                 | 16.0                                  | 15.20                   | 16.80                   | 31.2                 | 8.0                                          | 700                                          | 0.25                 | 0.5                                | 12.2               | 114.0                    |
| SMB2Z17A    | 2B2                 | 17.0                                  | 16.15                   | 17.85                   | 29.4                 | 9.0                                          | 750                                          | 0.25                 | 0.5                                | 13.0               | 107.0                    |
| SMB2Z18A    | 2B3                 | 18.0                                  | 17.10                   | 18.90                   | 27.8                 | 10.0                                         | 750                                          | 0.25                 | 0.5                                | 13.7               | 100.0                    |
| SMB2Z19A    | 2B4                 | 19.0                                  | 18.05                   | 19.95                   | 26.3                 | 11.0                                         | 750                                          | 0.25                 | 0.5                                | 14.4               | 95.0                     |
| SMB2Z20A    | 2B5                 | 20.0                                  | 19.00                   | 21.00                   | 25.0                 | 11.0                                         | 750                                          | 0.25                 | 0.5                                | 15.2               | 90.0                     |
| SMB2Z22A    | 2B6                 | 22.0                                  | 20.90                   | 23.10                   | 22.8                 | 12.0                                         | 750                                          | 0.25                 | 0.5                                | 16.7               | 82.0                     |
| SMB2Z24A    | 2B7                 | 24.0                                  | 22.80                   | 25.20                   | 20.8                 | 13.0                                         | 750                                          | 0.25                 | 0.5                                | 18.2               | 76.0                     |
| SMB2Z27A    | 2B8                 | 27.0                                  | 25.65                   | 28.35                   | 18.5                 | 18.0                                         | 750                                          | 0.25                 | 0.5                                | 20.6               | 68.0                     |
| SMB2Z30A    | 2B9                 | 30.0                                  | 28.50                   | 31.50                   | 16.6                 | 20.0                                         | 1000                                         | 0.25                 | 0.5                                | 22.5               | 60.0                     |
| SMB2Z33A    | 2C0                 | 33.0                                  | 31.35                   | 34.65                   | 15.1                 | 23.0                                         | 1000                                         | 0.25                 | 0.5                                | 25.1               | 55.0                     |
| SMB2Z36A    | 2C1                 | 36.0                                  | 34.20                   | 37.80                   | 13.9                 | 25.0                                         | 1000                                         | 0.25                 | 0.5                                | 27.4               | 50.0                     |
| SMB2Z39A    | 2C2                 | 39.0                                  | 37.05                   | 40.95                   | 12.8                 | 30.0                                         | 1000                                         | 0.25                 | 0.5                                | 29.7               | 47.0                     |
| SMB2Z43A    | 2C3                 | 43.0                                  | 40.85                   | 45.15                   | 11.6                 | 35.0                                         | 1500                                         | 0.25                 | 0.5                                | 32.7               | 43.0                     |
| SMB2Z47A    | 2C4                 | 47.0                                  | 44.65                   | 49.35                   | 10.6                 | 40.0                                         | 1500                                         | 0.25                 | 0.5                                | 35.8               | 39.0                     |
| SMB2Z51A    | 2C5                 | 51.0                                  | 48.45                   | 53.55                   | 9.8                  | 48.0                                         | 1500                                         | 0.25                 | 0.5                                | 38.8               | 36.0                     |
| SMB2Z56A    | 2C6                 | 56.0                                  | 53.20                   | 58.80                   | 9.0                  | 55.0                                         | 2000                                         | 0.25                 | 0.5                                | 42.6               | 32.0                     |
| SMB2Z62A    | 2C7                 | 62.0                                  | 58.90                   | 65.10                   | 8.1                  | 60.0                                         | 2000                                         | 0.25                 | 0.5                                | 47.1               | 29.0                     |
| SMB2Z68A    | 2C8                 | 68.0                                  | 64.60                   | 71.40                   | 7.4                  | 75.0                                         | 2000                                         | 0.25                 | 0.5                                | 51.7               | 27.0                     |
| SMB2Z75A    | 2C9                 | 75.0                                  | 71.25                   | 78.75                   | 6.7                  | 90.0                                         | 2000                                         | 0.25                 | 0.5                                | 56.0               | 24.0                     |
| SMB2Z82A    | 2F0                 | 82.0                                  | 77.90                   | 86.10                   | 6.1                  | 100.0                                        | 3000                                         | 0.25                 | 0.5                                | 62.2               | 22.0                     |
| SMB2Z91A    | 2F1                 | 91.0                                  | 86.45                   | 95.55                   | 5.5                  | 125.0                                        | 3000                                         | 0.25                 | 0.5                                | 69.2               | 20.0                     |
| SMB2Z100A   | 2F2                 | 100.0                                 | 95.00                   | 105.00                  | 5.0                  | 175.0                                        | 3000                                         | 0.25                 | 0.5                                | 76.0               | 18.0                     |
| SMB2Z110A   | 2F3                 | 110.0                                 | 104.50                  | 115.50                  | 4.5                  | 250.0                                        | 4000                                         | 0.25                 | 0.5                                | 83.6               | 17.0                     |
| SMB2Z120A   | 2F4                 | 120.0                                 | 114.00                  | 126.00                  | 4.2                  | 325.0                                        | 4500                                         | 0.25                 | 0.5                                | 91.2               | 15.0                     |
| SMB2Z130A   | 2F5                 | 130.0                                 | 123.50                  | 136.50                  | 3.8                  | 400.0                                        | 5000                                         | 0.25                 | 0.5                                | 98.8               | 14.0                     |
| SMB2Z140A   | 2F6                 | 140.0                                 | 133.00                  | 147.00                  | 3.6                  | 500.0                                        | 5500                                         | 0.25                 | 0.5                                | 106.4              | 13.0                     |
| SMB2Z150A   | 2F7                 | 150.0                                 | 142.50                  | 157.50                  | 3.3                  | 575.0                                        | 6000                                         | 0.25                 | 0.5                                | 114.0              | 12.0                     |
| SMB2Z160A   | 2F8                 | 160.0                                 | 152.00                  | 168.00                  | 3.1                  | 650.0                                        | 6500                                         | 0.25                 | 0.5                                | 121.6              | 11.0                     |
| SMB2Z170A   | 2F9                 | 170.0                                 | 161.50                  | 178.50                  | 2.9                  | 675.0                                        | 7000                                         | 0.25                 | 0.5                                | 130.4              | 11.0                     |
| SMB2Z180A   | 2G1                 | 180.0                                 | 171.00                  | 189.00                  | 2.8                  | 725.0                                        | 7000                                         | 0.25                 | 0.5                                | 136.8              | 10.0                     |
| SMB2Z190A   | 2G2                 | 190.0                                 | 180.50                  | 199.50                  | 2.6                  | 825.0                                        | 8000                                         | 0.25                 | 0.5                                | 144.8              | 10.0                     |
| SMB2Z200A   | 2G3                 | 200.0                                 | 190.00                  | 210.00                  | 2.5                  | 1900.0                                       | 9990                                         | 0.25                 | 0.5                                | 152.0              | 9.0                      |

