

3EZ3.9D10 ~ 3EZ200D10

SILICON ZENER DIODES

V_Z : 3.9 - 200 Volts

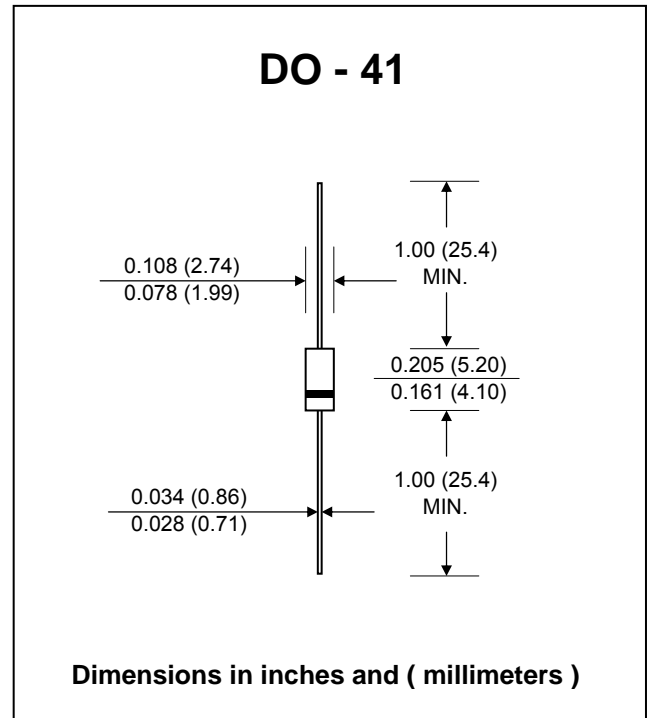
P_D : 3 Watts

FEATURES :

- * Complete Voltage Range 3.9 to 200 Volts
- * High peak reverse power dissipation
- * High reliability
- * Low leakage current
- * **Pb / RoHS Free**

MECHANICAL DATA

- * Case : DO-41 Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.339 gram



MAXIMUM RATINGS

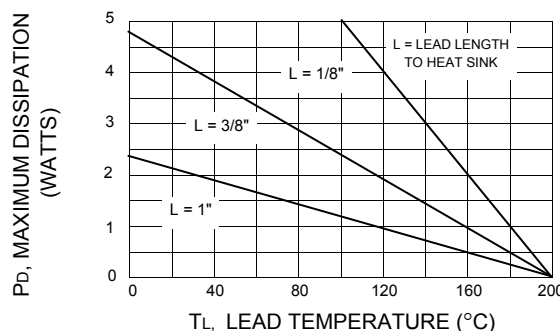
Rating at 25 °C ambient temperature unless otherwise specified

| Rating | Symbol | Value | Unit |
|--|------------------|---------------|-------|
| DC Power Dissipation at T _L = 75 °C (Note1) | P _D | 3.0 | W |
| Maximum Forward Voltage at I _F = 200 mA | V _F | 1.5 | V |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | R _{θJA} | 60 | K / W |
| Junction Temperature Range | T _J | - 55 to + 175 | °C |
| Storage Temperature Range | T _s | - 55 to + 175 | °C |

Notes :

- (1) T_L = Lead temperature at 3/8 " (9.5mm) from body
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

Fig. 1 Power Temperature Derating Curve



ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current |
|-----------|-----------------------|------|-------------------------|-----------|------|---------------------------------|------|--------------------------|
| | Vz @ IzT | IzT | ZzT @ IzT | Zzk @ Izk | Izk | IR @ VR | | IzM |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| 3EZ3.9D10 | 3.9 | 192 | 4.5 | 400 | 1.0 | 80 | 1.0 | 630 |
| 3EZ4.3D10 | 4.3 | 174 | 4.5 | 400 | 1.0 | 30 | 1.0 | 590 |
| 3EZ4.7D10 | 4.7 | 160 | 4.0 | 500 | 1.0 | 20 | 1.0 | 550 |
| 3EZ5.1D10 | 5.1 | 147 | 3.5 | 550 | 1.0 | 5.0 | 1.0 | 520 |
| 3EZ5.6D10 | 5.6 | 134 | 2.5 | 600 | 1.0 | 5.0 | 2.0 | 480 |
| 3EZ6.2D10 | 6.2 | 121 | 1.5 | 700 | 1.0 | 5.0 | 3.0 | 435 |
| 3EZ6.8D10 | 6.8 | 110 | 2.0 | 700 | 1.0 | 50 | 4.0 | 393 |
| 3EZ7.5D10 | 7.5 | 100 | 2.0 | 700 | 0.5 | 50 | 5.0 | 360 |
| 3EZ8.2D10 | 8.2 | 91 | 2.3 | 700 | 0.5 | 50 | 6.0 | 330 |
| 3EZ9.1D10 | 9.1 | 82 | 2.5 | 700 | 0.5 | 50 | 7.0 | 297 |
| 3EZ10D10 | 10 | 75 | 3.5 | 700 | 0.3 | 50 | 7.6 | 270 |
| 3EZ11D10 | 11 | 68 | 4.0 | 700 | 0.25 | 50 | 8.4 | 225 |
| 3EZ12D10 | 12 | 63 | 4.5 | 700 | 0.25 | 1.0 | 9.1 | 246 |
| 3EZ13D10 | 13 | 58 | 4.5 | 700 | 0.25 | 0.5 | 9.9 | 208 |
| 3EZ14D10 | 14 | 53 | 5.0 | 700 | 0.25 | 0.5 | 10.6 | 193 |
| 3EZ15D10 | 15 | 50 | 5.5 | 700 | 0.25 | 0.5 | 11.4 | 180 |
| 3EZ16D10 | 16 | 47 | 5.5 | 700 | 0.25 | 0.5 | 12.2 | 169 |
| 3EZ17D10 | 17 | 44 | 6.0 | 750 | 0.25 | 0.5 | 13.0 | 159 |
| 3EZ18D10 | 18 | 42 | 6.0 | 750 | 0.25 | 0.5 | 13.7 | 150 |
| 3EZ19D10 | 19 | 40 | 7.0 | 750 | 0.25 | 0.5 | 14.4 | 142 |
| 3EZ20D10 | 20 | 37 | 7.0 | 750 | 0.25 | 0.5 | 15.2 | 135 |
| 3EZ22D10 | 22 | 34 | 8.0 | 750 | 0.25 | 0.5 | 16.7 | 123 |
| 3EZ24D10 | 24 | 31 | 9.0 | 750 | 0.25 | 0.5 | 18.2 | 112 |
| 3EZ27D10 | 27 | 28 | 10 | 750 | 0.25 | 0.5 | 20.6 | 100 |
| 3EZ28D10 | 28 | 27 | 12 | 750 | 0.25 | 0.5 | 21.0 | 96 |
| 3EZ30D10 | 30 | 25 | 16 | 1000 | 0.25 | 0.5 | 22.5 | 90 |
| 3EZ33D10 | 33 | 23 | 20 | 1000 | 0.25 | 0.5 | 25.1 | 82 |
| 3EZ36D10 | 36 | 21 | 22 | 1000 | 0.25 | 0.5 | 27.4 | 75 |
| 3EZ39D10 | 39 | 19 | 28 | 1000 | 0.25 | 0.5 | 29.7 | 69 |
| 3EZ43D10 | 43 | 17 | 33 | 1500 | 0.25 | 0.5 | 32.7 | 63 |
| 3EZ47D10 | 47 | 16 | 38 | 1500 | 0.25 | 0.5 | 35.6 | 57 |
| 3EZ51D10 | 51 | 15 | 45 | 1500 | 0.25 | 0.5 | 38.8 | 53 |
| 3EZ56D10 | 56 | 13 | 50 | 2000 | 0.25 | 0.5 | 42.6 | 48 |
| 3EZ62D10 | 62 | 12 | 55 | 2000 | 0.25 | 0.5 | 47.1 | 44 |
| 3EZ68D10 | 68 | 11 | 70 | 2000 | 0.25 | 0.5 | 51.7 | 40 |
| 3EZ75D10 | 75 | 10 | 85 | 2000 | 0.25 | 0.5 | 56.0 | 36 |
| 3EZ82D10 | 82 | 9.1 | 95 | 3000 | 0.25 | 0.5 | 62.2 | 33 |

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current |
|-----------|-----------------------|------|-------------------------|-----------|------|---------------------------------|-------|--------------------------|
| | Vz @ IzT | IzT | ZzT @ IzT | Zzk @ Izk | Izk | IR @ VR | | IzM |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| 3EZ91D10 | 91 | 8.2 | 115 | 3000 | 0.25 | 0.5 | 69.2 | 30 |
| 3EZ100D10 | 100 | 7.5 | 160 | 3000 | 0.25 | 0.5 | 76.0 | 27 |
| 3EZ110D10 | 110 | 6.8 | 225 | 4000 | 0.25 | 0.5 | 83.6 | 25 |
| 3EZ120D10 | 120 | 6.3 | 300 | 4500 | 0.25 | 0.5 | 91.2 | 22 |
| 3EZ130D10 | 130 | 5.8 | 375 | 5000 | 0.25 | 0.5 | 98.8 | 21 |
| 3EZ140D10 | 140 | 5.3 | 475 | 5000 | 0.25 | 0.5 | 106.4 | 19 |
| 3EZ150D10 | 150 | 5.0 | 550 | 6000 | 0.25 | 0.5 | 114.0 | 18 |
| 3EZ160D10 | 160 | 4.7 | 625 | 6500 | 0.25 | 0.5 | 121.6 | 17 |
| 3EZ170D10 | 170 | 4.4 | 650 | 7000 | 0.25 | 0.5 | 130.4 | 16 |
| 3EZ180D10 | 180 | 4.2 | 700 | 7000 | 0.25 | 0.5 | 136.8 | 15 |
| 3EZ190D10 | 190 | 4.0 | 800 | 8000 | 0.25 | 0.5 | 144.8 | 14 |
| 3EZ200D10 | 200 | 3.7 | 875 | 8000 | 0.25 | 0.5 | 152.0 | 13 |

Notes :

- (1) Suffix " 10 " indicates ± 10% tolerance, suffix " 5 " indicates ± 5% tolerance.
- (2) " EZ " will be omitted in marking on the diode

Fig. 2 Maximum Surge Power

