

# 3EZ Series

**V<sub>Z</sub> : 3.9 - 400 Volts**  
**P<sub>D</sub> : 3 Watts**

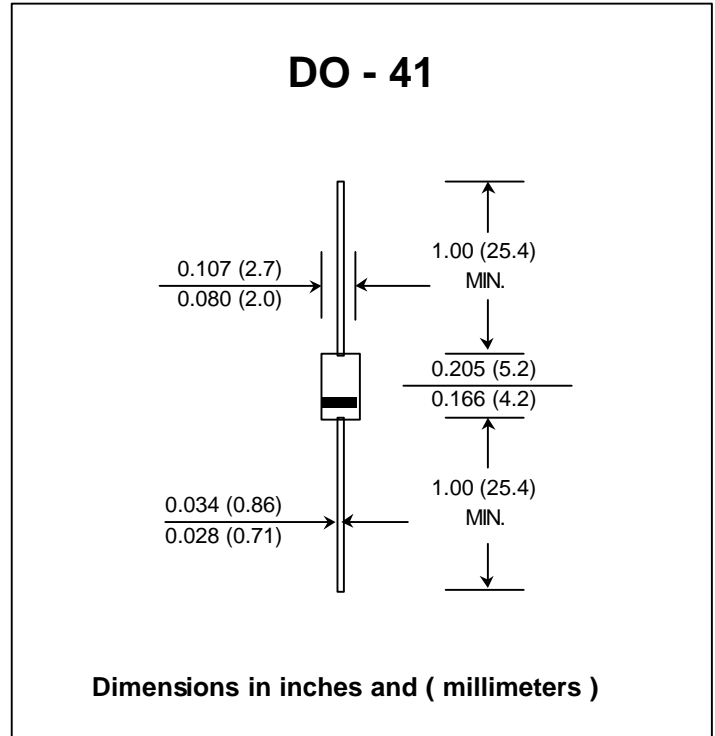
### FEATURES :

- \* Complete Voltage Range 3.9 to 400 Volts
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current

### 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

# SILICON ZENER DIODES



### MAXIMUM RATINGS

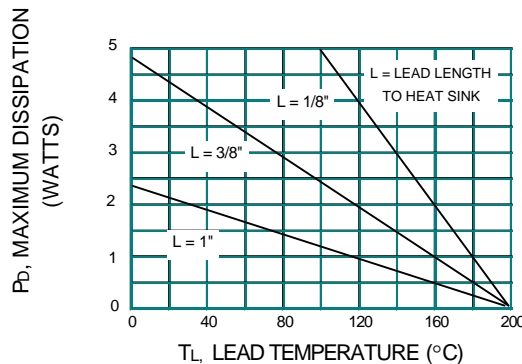
Rating at 25 °C ambient temperature unless otherwise specified

| Rating   | Symbol           | Value         | Unit  |
|--|------------------|---------------|-------|
| DC Power Dissipation at T <sub>L</sub> = 75 °C (Note1)     | P <sub>D</sub>   | 3.0           | Watts |
| Maximum Forward Voltage at I <sub>F</sub> = 200 mA         | V <sub>F</sub>   | 1.5           | Volts |
| Maximum Thermal Resistance Junction to Ambient Air (Note2) | R <sub>θJA</sub> | 60            | K / W |
| Junction Temperature Range                                 | T <sub>J</sub>   | - 55 to + 175 | °C    |
| Storage Temperature Range                                  | T <sub>S</sub>   | - 55 to + 175 | °C    |

**Note :**

- (1) T<sub>L</sub> = 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**





Certificate Number: Q10561

Certificate Number: E17276

## 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)                     |
| 3EZ3.9D5 | 3.9                   | 192  | 4.5                     | 400       | 1.0  | 80                              | 1.0  | 630                      |
| 3EZ4.3D5 | 4.3                   | 174  | 4.5                     | 400       | 1.0  | 30                              | 1.0  | 590                      |
| 3EZ4.7D5 | 4.7                   | 160  | 4.0                     | 500       | 1.0  | 20                              | 1.0  | 550                      |
| 3EZ5.1D5 | 5.1                   | 147  | 3.5                     | 550       | 1.0  | 5.0                             | 1.0  | 520                      |
| 3EZ5.6D5 | 5.6                   | 134  | 2.5                     | 600       | 1.0  | 5.0                             | 2.0  | 480                      |
| 3EZ6.2D5 | 6.2                   | 121  | 1.5                     | 700       | 1.0  | 5.0                             | 3.0  | 435                      |
| 3EZ6.8D5 | 6.8                   | 110  | 2.0                     | 700       | 1.0  | 50                              | 4.0  | 393                      |
| 3EZ7.5D5 | 7.5                   | 100  | 2.0                     | 700       | 0.5  | 50                              | 5.0  | 360                      |
| 3EZ8.2D5 | 8.2                   | 91   | 2.3                     | 700       | 0.5  | 50                              | 6.0  | 330                      |
| 3EZ9.1D5 | 9.1                   | 82   | 2.5                     | 700       | 0.5  | 50                              | 7.0  | 297                      |
| 3EZ10D5  | 10                    | 75   | 3.5                     | 700       | 0.3  | 50                              | 7.6  | 270                      |
| 3EZ11D5  | 11                    | 68   | 4.0                     | 700       | 0.25 | 50                              | 8.4  | 225                      |
| 3EZ12D5  | 12                    | 63   | 4.5                     | 700       | 0.25 | 1.0                             | 9.1  | 246                      |
| 3EZ13D5  | 13                    | 58   | 4.5                     | 700       | 0.25 | 0.5                             | 9.1  | 208                      |
| 3EZ14D5  | 14                    | 53   | 5.0                     | 700       | 0.25 | 0.5                             | 10.6 | 193                      |
| 3EZ15D5  | 15                    | 50   | 5.5                     | 700       | 0.25 | 0.5                             | 11.4 | 180                      |
| 3EZ16D5  | 16                    | 47   | 5.5                     | 700       | 0.25 | 0.5                             | 12.2 | 169                      |
| 3EZ17D5  | 17                    | 44   | 6.0                     | 750       | 0.25 | 0.5                             | 13.0 | 159                      |
| 3EZ18D5  | 18                    | 42   | 6.0                     | 750       | 0.25 | 0.5                             | 13.7 | 150                      |
| 3EZ19D5  | 19                    | 40   | 7.0                     | 750       | 0.25 | 0.5                             | 14.4 | 142                      |
| 3EZ20D5  | 20                    | 37   | 7.0                     | 750       | 0.25 | 0.5                             | 15.2 | 135                      |
| 3EZ22D5  | 22                    | 34   | 8.0                     | 750       | 0.25 | 0.5                             | 16.7 | 123                      |
| 3EZ24D5  | 24                    | 31   | 9.0                     | 750       | 0.25 | 0.5                             | 18.2 | 112                      |
| 3EZ27D5  | 27                    | 28   | 10                      | 750       | 0.25 | 0.5                             | 20.6 | 100                      |
| 3EZ28D5  | 28                    | 27   | 12                      | 750       | 0.25 | 0.5                             | 21.0 | 96                       |
| 3EZ30D5  | 30                    | 25   | 16                      | 1000      | 0.25 | 0.5                             | 22.5 | 90                       |
| 3EZ33D5  | 33                    | 23   | 20                      | 1000      | 0.25 | 0.5                             | 25.1 | 82                       |
| 3EZ36D5  | 36                    | 21   | 22                      | 1000      | 0.25 | 0.5                             | 27.4 | 75                       |
| 3EZ39D5  | 39                    | 19   | 28                      | 1000      | 0.25 | 0.5                             | 29.7 | 69                       |
| 3EZ43D5  | 43                    | 17   | 33                      | 1500      | 0.25 | 0.5                             | 32.7 | 63                       |
| 3EZ47D5  | 47                    | 16   | 38                      | 1500      | 0.25 | 0.5                             | 35.6 | 57                       |
| 3EZ51D5  | 51                    | 15   | 45                      | 1500      | 0.25 | 0.5                             | 38.8 | 53                       |
| 3EZ56D5  | 56                    | 13   | 50                      | 2000      | 0.25 | 0.5                             | 42.6 | 48                       |
| 3EZ62D5  | 62                    | 12   | 55                      | 2000      | 0.25 | 0.5                             | 47.1 | 44                       |
| 3EZ68D5  | 68                    | 11   | 70                      | 2000      | 0.25 | 0.5                             | 51.7 | 40                       |
| 3EZ75D5  | 75                    | 10   | 85                      | 2000      | 0.25 | 0.5                             | 56.0 | 36                       |
| 3EZ82D5  | 82                    | 9.1  | 95                      | 3000      | 0.25 | 0.5                             | 62.2 | 33                       |
| 3EZ91D5  | 91                    | 8.2  | 115                     | 3000      | 0.25 | 0.5                             | 69.2 | 30                       |
| 3EZ100D5 | 100                   | 7.5  | 160                     | 3000      | 0.25 | 0.5                             | 76.0 | 27                       |

## 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)                     |
| 3EZ110D5 | 110                   | 6.8  | 225                     | 4000      | 0.25 | 0.5                             | 83.6  | 25                       |
| 3EZ120D5 | 120                   | 6.3  | 300                     | 4500      | 0.25 | 0.5                             | 91.2  | 22                       |
| 3EZ130D5 | 130                   | 5.8  | 375                     | 5000      | 0.25 | 0.5                             | 98.8  | 21                       |
| 3EZ140D5 | 140                   | 5.3  | 475                     | 5000      | 0.25 | 0.5                             | 106.4 | 19                       |
| 3EZ150D5 | 150                   | 5.0  | 550                     | 6000      | 0.25 | 0.5                             | 114.0 | 18                       |
| 3EZ160D5 | 160                   | 4.7  | 625                     | 6500      | 0.25 | 0.5                             | 121.6 | 17                       |
| 3EZ170D5 | 170                   | 4.4  | 650                     | 7000      | 0.25 | 0.5                             | 130.4 | 16                       |
| 3EZ180D5 | 180                   | 4.2  | 700                     | 7000      | 0.25 | 0.5                             | 136.8 | 15                       |
| 3EZ190D5 | 190                   | 4.0  | 800                     | 8000      | 0.25 | 0.5                             | 144.8 | 14                       |
| 3EZ200D5 | 200                   | 3.7  | 875                     | 8000      | 0.25 | 0.5                             | 152.0 | 13                       |
| 3EZ220D5 | 220                   | 3.4  | 1600                    | 9000      | 0.25 | 1                               | 167.0 | 12                       |
| 3EZ240D5 | 240                   | 3.1  | 1700                    | 9000      | 0.25 | 1                               | 182.0 | 11                       |
| 3EZ270D5 | 270                   | 2.8  | 1800                    | 9000      | 0.25 | 1                               | 205.0 | 10                       |
| 3EZ300D5 | 300                   | 2.5  | 1900                    | 9000      | 0.25 | 1                               | 228.0 | 9                        |
| 3EZ330D5 | 330                   | 2.3  | 2200                    | 9000      | 0.25 | 1                               | 251.0 | 8                        |
| 3EZ360D5 | 360                   | 2.1  | 2700                    | 9000      | 0.25 | 1                               | 274.0 | 8                        |
| 3EZ400D5 | 400                   | 1.9  | 3500                    | 9000      | 0.25 | 1                               | 304.0 | 7                        |

**Note :**

- ( 1 ) Suffix " 5 " indicates  $\pm 5.0\%$  tolerance, suffix " 10 " indicates  $\pm 10.0\%$  tolerance.
- ( 2 ) " EZ " will be omitted in marking on the diode



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