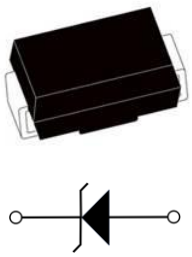
# YAZ1D3V3 THRU YAZ1D330

## FEATURES

- Total power dissipation: Max. 1W.
- Wide zener reverse voltage range 3.3V to 330V.
- Small plastic package suitable for surface mounted design.

## Mechanical Date

- Case: SMAG
- Terminals: Solderable per MIL-STD-750, Method 2026





## Absolute Maximum Ratings And Characteristics （Ta = 25 °C）

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_d$ ($T_L$=75℃) | 1 | W |
| Zener current | $I_Z$ | $P_V/V_Z$ | mA |
| Forward voltage | VF($I_F$=200mA) | 1.2 | V |
| Junction Temperature Range | $T_j$, | -55～+150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -55～+150 | ℃ |

## Electrical Characteristics (TA = 25 °C)

| Part Number | Nominal Zener Voltage @$I_T$ | | | $I_{ZT}$(mA) | Maximum Zener Impedance | Maximum Reverse Leakage Current | | Maximum DC Zener Current |
|---|---|---|---|---|---|---|---|---|
| | Nom（V） | Min（V） | Max（V） | | Zzt max.@Izt (Ω) | Ir(uA)@V R | VR(V) | IZM（mA） |
| YAZ1D3V3 | 3.3 | 3.10 | 3.50 | 75 | 10 | 100 | 1 | 285 |
| YAZ1D3V6 | 3.6 | 3.40 | 3.80 | 69 | 10 | 100 | 1 | 263 |
| YAZ1D3V9 | 3.9 | 3.70 | 4.10 | 64 | 9.0 | 50 | 1 | 243 |
| YAZ1D4V3 | 4.3 | 4.06 | 4.56 | 58 | 9.0 | 25 | 1 | 219 |
| YAZ1D4V7 | 4.7 | 4.50 | 4.93 | 53 | 8.0 | 10 | 1 | 203 |
| YAZ1D5V1 | 5.1 | 4.84 | 5.36 | 49 | 7.0 | 10 | 1 | 186 |
| YAZ1D5V6 | 5.6 | 5.32 | 5.92 | 45 | 5.0 | 10 | 2 | 170 |
| YAZ1D6V2 | 6.2 | 5.86 | 6.51 | 41 | 2.0 | 10 | 3 | 154 |
| YAZ1D6V8 | 6.8 | 6.46 | 7.18 | 37 | 3.5 | 10 | 4 | 140 |
| YAZ1D7V5 | 7.5 | 7.12 | 7.88 | 34 | 4.0 | 10 | 5 | 127 |
| YAZ1D8V2 | 8.2 | 7.79 | 8.67 | 31 | 4.5 | 10 | 6 | 116 |
| YAZ1D9V1 | 9.1 | 8.60 | 9.59 | 28 | 5.0 | 10 | 7 | 104 |
| YAZ1D10 | 10 | 9.50 | 10.5 | 25 | 7.0 | 10 | 7 | 95 |
| YAZ1D11 | 11 | 10.4 | 11.6 | 23 | 8.0 | 5 | 8 | 86 |
| YAZ1D12 | 12 | 11.4 | 12.6 | 21 | 9.0 | 5 | 9 | 79 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| YAZ1D13 | 13 | 12.4 | 14.1 | 19 | 10 | 5 | 10 | 71 |
| YAZ1D15 | 15 | 13.8 | 15.8 | 17 | 14 | 5 | 11 | 63 |
| YAZ1D16 | 16 | 15.2 | 17.1 | 16 | 16 | 5 | 12 | 58 |
| YAZ1D18 | 18 | 16.8 | 19.2 | 14 | 20 | 5 | 13 | 52 |
| YAZ1D20 | 20 | 19.0 | 21.2 | 13 | 22 | 5 | 15 | 47 |
| YAZ1D22 | 22 | 20.8 | 23.3 | 12 | 23 | 5 | 17 | 43 |
| YAZ1D24 | 24 | 22.8 | 26.0 | 11 | 25 | 5 | 18 | 38 |
| YAZ1D27 | 27 | 25.3 | 28.9 | 9.5 | 35 | 5 | 21 | 35 |
| YAZ1D30 | 30 | 28.2 | 32.0 | 8.5 | 40 | 5 | 23 | 31 |
| YAZ1D33 | 33 | 31.3 | 34.9 | 7.5 | 45 | 5 | 25 | 28 |
| YAZ1D36 | 36 | 34.2 | 37.9 | 7.0 | 50 | 5 | 27 | 26 |
| YAZ1D39 | 39 | 37.2 | 41.5 | 6.5 | 60 | 5 | 30 | 24 |
| YAZ1D43 | 43 | 40.9 | 45.6 | 6.0 | 70 | 1 | 32 | 22 |
| YAZ1D47 | 47 | 44.9 | 49.8 | 5.5 | 80 | 1 | 35 | 20 |
| YAZ1D51 | 51 | 48.6 | 54.0 | 5.0 | 95 | 1 | 38 | 18 |
| YAZ1D56 | 56 | 53.6 | 58.8 | 4.5 | 110 | 1 | 42 | 17 |
| YAZ1D62 | 62 | 58.9 | 65.6 | 4.0 | 125 | 1 | 47 | 15 |
| YAZ1D68 | 68 | 64.6 | 71.7 | 3.7 | 150 | 1 | 52 | 14 |
| YAZ1D75 | 75 | 71.2 | 78.8 | 3.3 | 175 | 1 | 56 | 12 |
| YAZ1D82 | 82 | 77.9 | 87.0 | 3.0 | 200 | 1 | 62 | 11 |
| YAZ1D91 | 91 | 86.0 | 96.0 | 2.8 | 250 | 1 | 69 | 10 |
| YAZ1D100 | 100 | 95.0 | 105 | 2.5 | 350 | 1 | 76 | 9.5 |
| YAZ1D110 | 110 | 104 | 116 | 2.3 | 450 | 1 | 84 | 8.6 |
| YAZ1D120 | 120 | 114 | 127 | 2.0 | 550 | 1 | 91 | 7.8 |
| YAZ1D135 | 135 | 125 | 142 | 1.9 | 700 | 1 | 100 | 7.0 |
| YAZ1D150 | 150 | 140 | 157 | 1.7 | 900 | 1 | 110 | 6.3 |
| YAZ1D165 | 165 | 155 | 172 | 1.6 | 1100 | 1 | 120 | 5.8 |
| YAZ1D180 | 180 | 170 | 191 | 1.4 | 1200 | 1 | 135 | 5.2 |
| YAZ1D200 | 200 | 189 | 211 | 1.2 | 1400 | 1 | 150 | 4.7 |
| YAZ1D220 | 220 | 209 | 231 | 1.0 | 1600 | 1 | 165 | 4.3 |
| YAZ1D240 | 240 | 229 | 251 | 1.0 | 1800 | 1 | 180 | 3.9 |
| YAZ1D260 | 260 | 249 | 271 | 1.0 | 2000 | 1 | 190 | 3.7 |
| YAZ1D280 | 280 | 269 | 291 | 1.0 | 2100 | 1 | 205 | 3.4 |
| YAZ1D300 | 300 | 289 | 315 | 1.0 | 2300 | 1 | 230 | 3.1 |
| YAZ1D330 | 330 | 313 | 346 | 1.0 | 2500 | 1 | 250 | 2.8 |

(1) The revese surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per method.

## Typical Characteristics

Fig.1Power Temperature Derating Curve

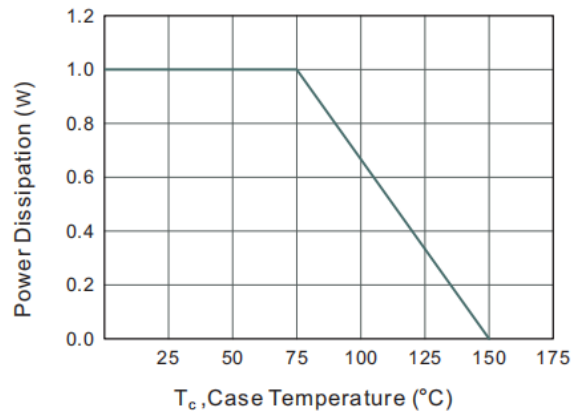



Fig.2 Temperature Coefficients v.s. Zener Voltage

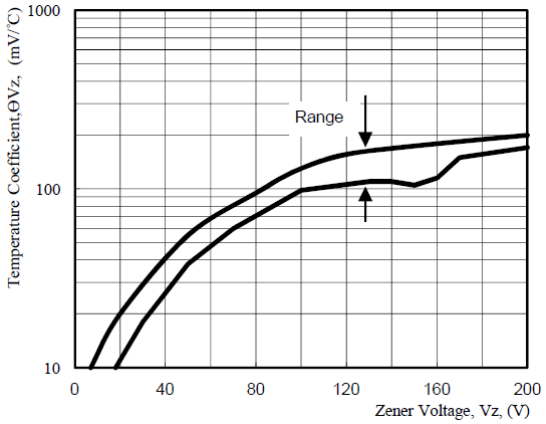



Fig.3 Typical Thermal Resistance v.s. Lead Length

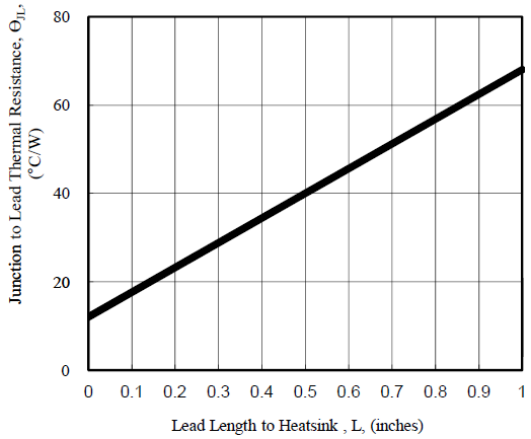



Fig.4 Maximum Surge Power

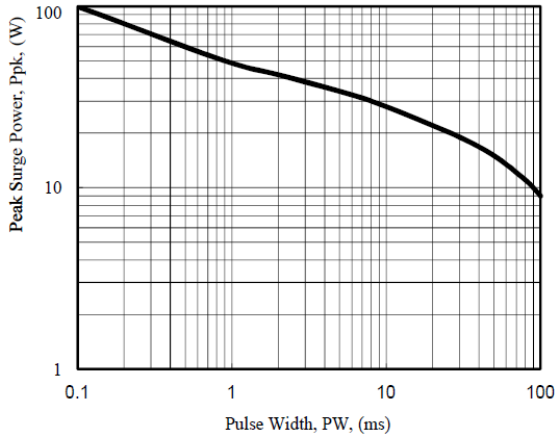
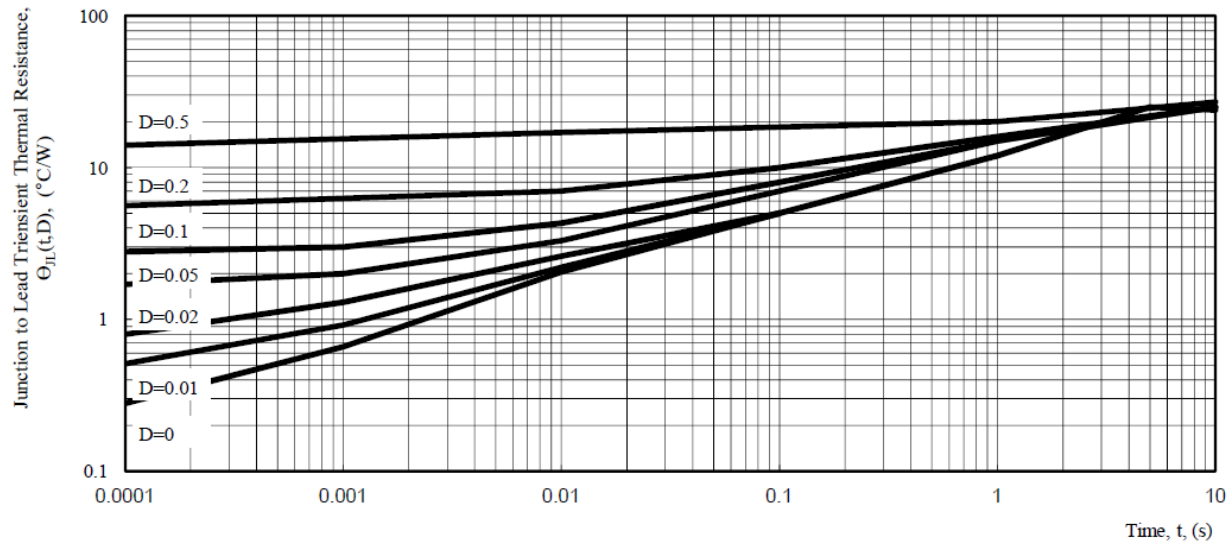
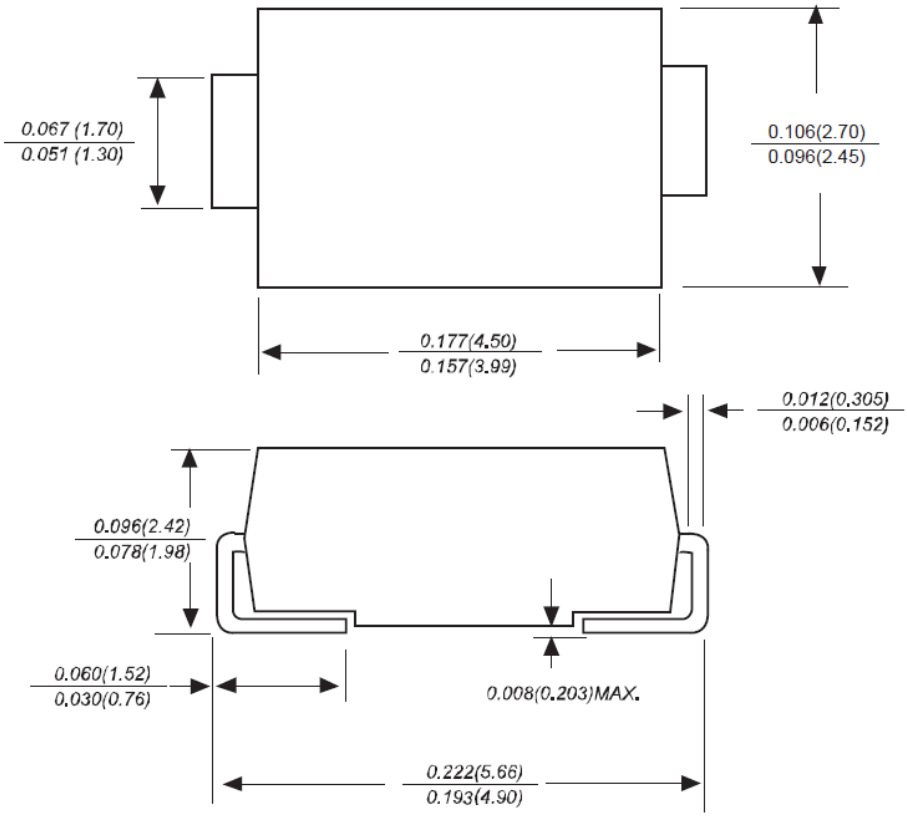


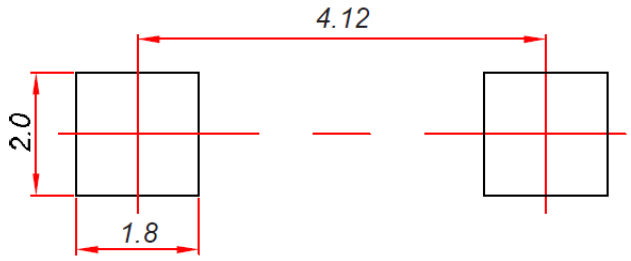

Fig.5 Typical Thermal Response L, Lead Length=3/8inch



## Package Outline




*Dimensions in inches and (millimeters)*




NOTE:

1. Controlling dimension: in millimeters
2. General tolerance:±0.05mm
3. The pad layout is for reference purposes only