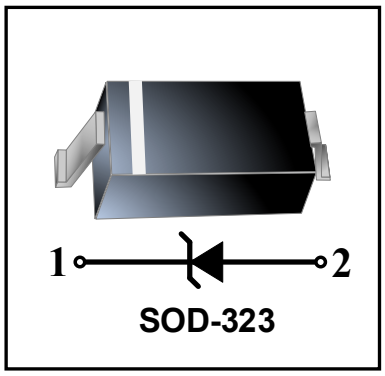
# WZ20CxxxD3

**ZENER DIODE**




## Features

- Constant Voltage Control
- Planar Die Construction
- Zener Voltages From 2.5V-47V

## Mechanical Data

- SOD-323 Package
- Marking : Refer to Table List
- RoHS Compliant & HF
- Device meets MSL3 requirement

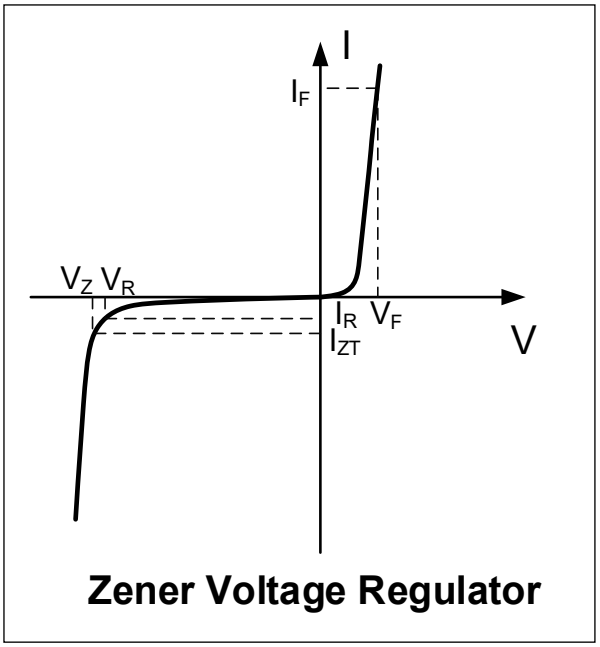
## Absolute Maximum Rating ($T_a$=25°C unless otherwise noted)

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Forward Voltage @ $I_F$ = 10mA | $V_F$ | 0.9 | V |
| Power Dissipation | $P_D$ | 500 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 250 | °C/W |
| Junction Temperature Range | $T_J$ | -55 to +150 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | °C |

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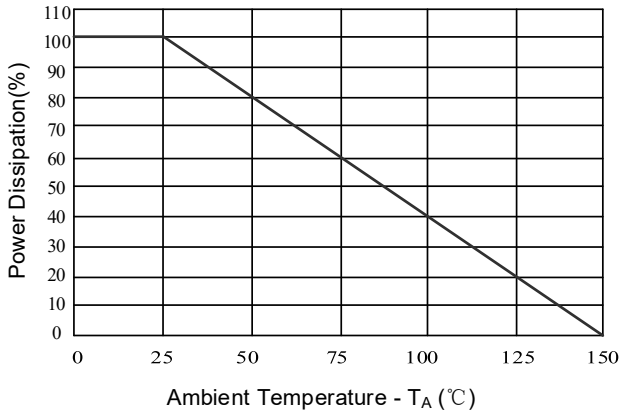
## Electrical Parameters ($T_a$=25℃)

| Symbol | Parameter |
|---|---|
| $I_{ZT}$ | Reverse Current |
| $V_Z$ | Reverse Zener Voltage @ $I_{ZT}$ |
| $V_R$ | Reverse Voltage |
| $I_R$ | Reverse Leakage Current @ $V_R$ |
| $I_F$ | Forward Current |
| $V_F$ | Forward Voltage @ $I_F$ |




## Typical Characteristics

**Figure 1: Power Derating Curve**



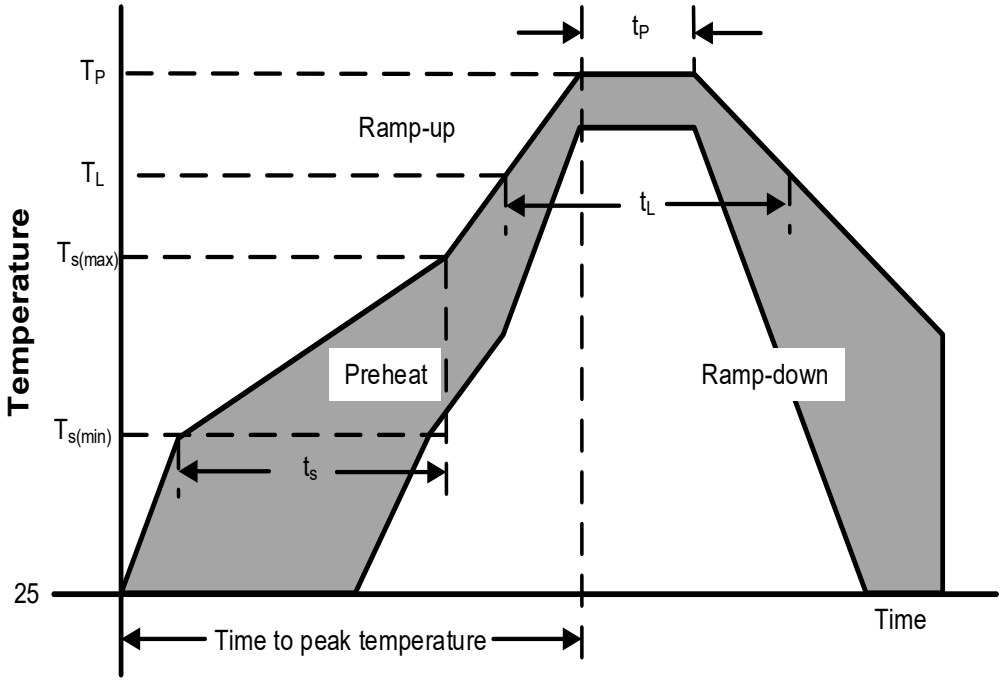
## Electrical Characteristics

| Type Number | Marking | Zener Voltage Range | | | | Maximum Zener Impedance | | | Maximum Reverse Current | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | $V_Z$@$I_{ZT}$ | | | $I_{ZT}$ | $Z_{ZT}$@$I_{ZT}$ | $Z_{ZK}$@$I_{ZK}$ | $I_{ZK}$ | $I_R$ | $V_R$ |
| | | Nom(V) | Min(V) | Max(V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) |
| WZ20C2V4D3 | C1 | 2.4 | 2.28 | 2.52 | 20 | 30 | 1200 | 0.25 | 100 | 1.0 |
| WZ20C2V7D3 | C3 | 2.7 | 2.57 | 2.84 | 20 | 30 | 1300 | 0.25 | 75 | 1.0 |
| WZ20C3V0D3 | C5 | 3.0 | 2.85 | 3.15 | 20 | 30 | 1600 | 0.25 | 50 | 1.0 |
| WZ20C3V3D3 | G1 | 3.3 | 3.14 | 3.47 | 20 | 28 | 1600 | 0.25 | 25 | 1.0 |
| WZ20C3V6D3 | G2 | 3.6 | 3.42 | 3.78 | 20 | 24 | 1700 | 0.25 | 15 | 1.0 |
| WZ20C3V9D3 | G3 | 3.9 | 3.71 | 4.10 | 20 | 23 | 1900 | 0.25 | 10 | 1.0 |
| WZ20C4V3D3 | G4 | 4.3 | 4.09 | 4.52 | 20 | 22 | 2000 | 0.25 | 5 | 1.0 |
| WZ20C4V7D3 | G5 | 4.7 | 4.47 | 4.94 | 20 | 19 | 1900 | 0.25 | 5 | 2.0 |
| WZ20C5V1D3 | E1 | 5.1 | 4.85 | 5.36 | 20 | 17 | 1600 | 0.25 | 5 | 2.0 |
| WZ20C5V6D3 | E2 | 5.6 | 5.32 | 5.88 | 20 | 11 | 1600 | 0.25 | 5 | 3.0 |
| WZ20C6V0D3 | E3 | 6.0 | 5.70 | 6.30 | 20 | 7 | 1600 | 0.25 | 5 | 3.5 |
| WZ20C6V2D3 | E4 | 6.2 | 5.89 | 6.51 | 20 | 7 | 1000 | 0.25 | 5 | 4.0 |
| WZ20C6V8D3 | E5 | 6.8 | 6.46 | 7.14 | 20 | 5 | 750 | 0.25 | 3 | 5.0 |
| WZ20C7V5D3 | F1 | 7.5 | 7.13 | 7.88 | 20 | 6 | 500 | 0.25 | 3 | 6.0 |
| WZ20C8V2D3 | F2 | 8.2 | 7.79 | 8.61 | 20 | 8 | 500 | 0.25 | 3 | 6.5 |
| WZ20C8V7D3 | F3 | 8.7 | 8.27 | 9.14 | 20 | 8 | 600 | 0.25 | 3 | 6.5 |
| WZ20C9V1D3 | F4 | 9.1 | 8.65 | 9.56 | 20 | 10 | 600 | 0.25 | 3 | 7.0 |
| WZ20C10VD3 | F5 | 10 | 9.50 | 10.50 | 20 | 17 | 600 | 0.25 | 3 | 8.0 |
| WZ20C11VD3 | H1 | 11 | 10.45 | 11.55 | 20 | 22 | 600 | 0.25 | 2 | 8.4 |
| WZ20C12VD3 | H2 | 12 | 11.40 | 12.60 | 20 | 30 | 600 | 0.25 | 1 | 9.1 |
| WZ20C13VD3 | H3 | 13 | 12.35 | 13.65 | 9.5 | 13 | 600 | 0.25 | 0.5 | 9.9 |
| WZ20C14VD3 | H4 | 14 | 13.30 | 14.70 | 9.0 | 15 | 600 | 0.25 | 0.1 | 10 |
| WZ20C15VD3 | H5 | 15 | 14.25 | 15.75 | 8.5 | 16 | 600 | 0.25 | 0.1 | 11 |
| WZ20C16VD3 | J1 | 16 | 15.20 | 16.80 | 7.8 | 17 | 600 | 0.25 | 0.1 | 12 |
| WZ20C17VD3 | J2 | 17 | 16.15 | 17.85 | 7.4 | 19 | 600 | 0.25 | 0.1 | 13 |
| WZ20C18VD3 | J3 | 18 | 17.10 | 18.90 | 7.0 | 21 | 600 | 0.25 | 0.1 | 14 |
| WZ20C20VD3 | J5 | 20 | 19.00 | 21.00 | 6.2 | 25 | 600 | 0.25 | 0.1 | 15 |
| WZ20C22VD3 | K1 | 22 | 20.90 | 23.10 | 5.6 | 29 | 600 | 0.25 | 0.1 | 17 |
| WZ20C24VD3 | K2 | 24 | 22.80 | 25.20 | 5.2 | 33 | 600 | 0.25 | 0.1 | 18 |
| WZ20C25VD3 | K3 | 25 | 23.75 | 26.25 | 5.0 | 35 | 600 | 0.25 | 0.1 | 19 |
| WZ20C27VD3 | K4 | 27 | 25.65 | 28.35 | 5.0 | 41 | 600 | 0.25 | 0.1 | 21 |
| WZ20C28VD3 | K5 | 28 | 26.60 | 29.40 | 4.5 | 44 | 600 | 0.25 | 0.1 | 21 |
| WZ20C30VD3 | M1 | 30 | 28.50 | 31.50 | 4.2 | 49 | 600 | 0.25 | 0.1 | 23 |
| WZ20C33VD3 | M2 | 33 | 31.35 | 34.65 | 3.8 | 58 | 700 | 0.25 | 0.1 | 25 |
| WZ20C36VD3 | M3 | 36 | 34.20 | 37.80 | 3.4 | 70 | 700 | 0.25 | 0.1 | 27 |
| WZ20C39VD3 | M4 | 39 | 37.05 | 40.95 | 3.2 | 80 | 800 | 0.25 | 0.1 | 30 |
| WZ20C43VD3 | M5 | 43 | 40.85 | 45.15 | 3 | 93 | 900 | 0.25 | 0.1 | 33 |
| WZ20C47VD3 | N1 | 47 | 44.65 | 49.35 | 2.7 | 105 | 1000 | 0.25 | 0.1 | 36 |

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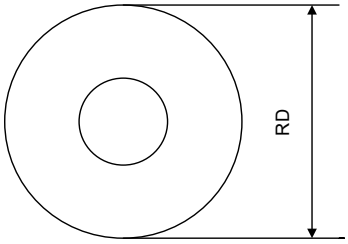
## Soldering Parameters

| Reflow Condition | | Pb – Free assembly |
|---|---|---|
| Pre Heat | Temperature Min ($T_{s(min)}$) | 150°C |
| | Temperature Max ($T_{s(max)}$) | 200°C |
| | Time (min to max) (ts ) | 60 – 190 secs |
| Average ramp up rate (Liquidus Temp) ($T_L$) to peak | | 5°C/second max |
| $T_{S(max)}$ to $T_L$——Ramp-up Rate | | 5°C/second max |
| Reflow | Temperature ($T_L$) (Liquidus) | 217°C |
| | Temperature ($t_L$) | 60 – 150 seconds |
| Peak Temperature ($T_P$) | | 260+0/-5 °C |
| Time within actual peak Temperature ($t_p$ ) | | 20 – 40 seconds |
| Ramp-down Rate | | 5°C/second max |
| Time 25°C to peak Temperature ($T_P$) | | 8 minutes Max. |
| Do not exceed | | 280°C |

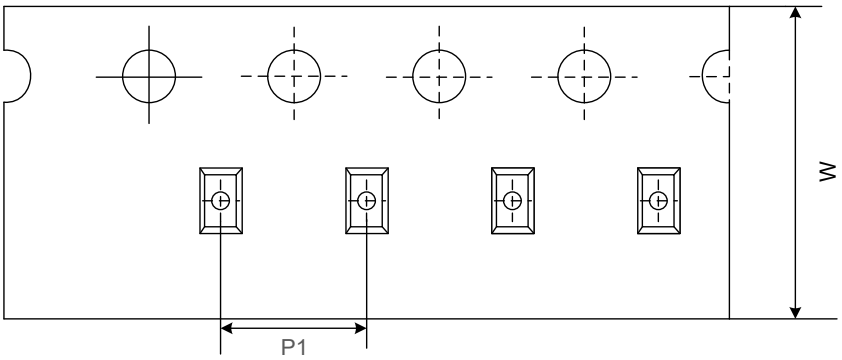


## Tape And Reel Information

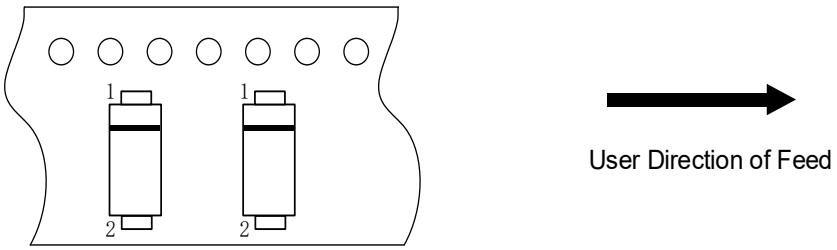
**Reel Dimensions**




**Tape Dimensions**



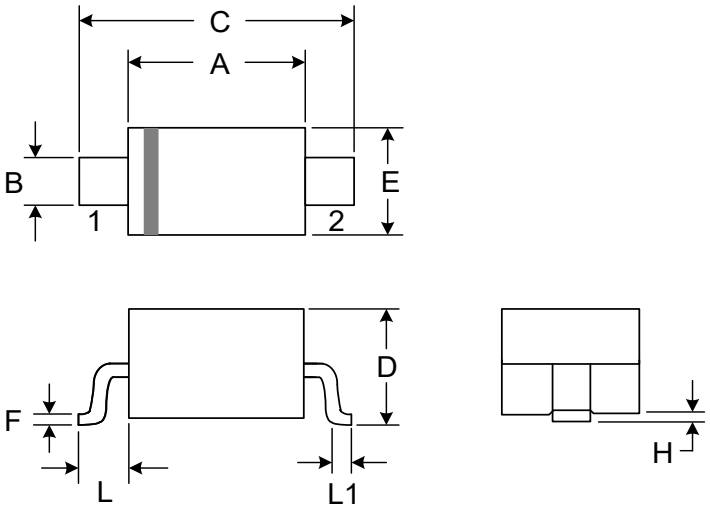

**Quadrant Assignments For PIN1 Orientation In Tape**

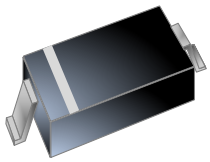



| | | |
|---|---|---|
| RD | Reel Dimensions | 7 inch |
| W | Overall width of the carrier tape | 8 mm |
| P1 | Pitch between successive cavity centers | 4 mm |

## Outline Drawing – SOD-323

### PACKAGE OUTLINE

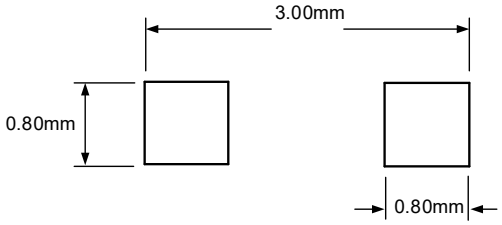


SOD-323

| SYMBOL | MILLIMETERS | |
|---|---|---|
| | MIN | MAX |
| A | 1.40 | 1.80 |
| B | 0.25 | 0.40 |
| C | 2.30 | 2.80 |
| D | 0.80 | 1.20 |
| E | 1.11 | 1.40 |
| F | 0.08 | 0.20 |
| L | 0.475 REF | |
| L1 | 0.20 | 0.50 |
| H | 0.00 | 0.20 |

### MOUNTING PAD




**Notes**

Controlling Dimensions in Millimeters.

## Package Information

Qty：3k/Reel

## CONTACT INFORMATION

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WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.

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1. The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

2. The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

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