# B16WS
## SCHOTTKY BARRIER DIODES

VOLTAGE RANGE
60 Volts
CURRENT
1.0 A

## FEATURES

- Guard ring protection
- Low forward voltage drop
- For use in low voltage, high frequency inverters
- High surge current capability








**SOD- 323**

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| Parameter | Symbols | B16WS | Units |
|---|---|---|---|
| Maximum recurrent peak reverse voltage | $V_{RRM}$ | 60 | V |
| Maximum RMS voltage | $V_{RMS}$ | 42 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 60 | V |
| Continuous forward current | $I_F$ | 1 | A |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $I_R$ | 0.1 @VR=60V | mA |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 25 | A |
| Maximum Instantaneous Forward Voltage | $V_F$ | 0.7 @ $I_F$=1.0A | V |
| Total capacitiance $V_R$=4V,f=1MHz | $C_{tot}$ | 120 | pF |
| Total power dissipation | $P_{tot}$ | 250 | mW |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 400 | °C/W |
| Junction Temperature | $T_j$ | 125 | ℃ |
| Storage Temperature | $T_{stg}$ | -55 ~ +150 | ℃ |

## RATING AND CHARACTERISTIC CURVES

**Fig.1 Power Derating Curve**

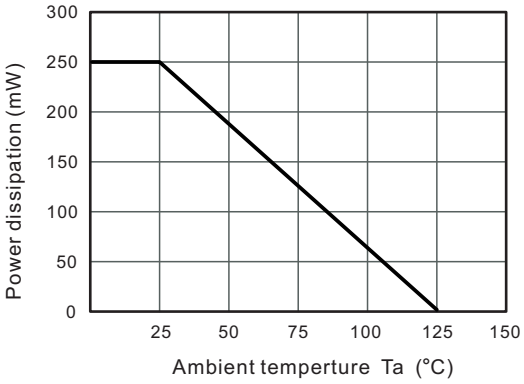



**Fig.2 Typical Reverse Characteristics**

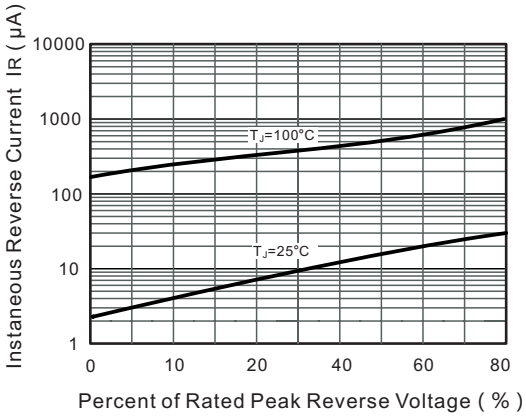



**Fig.3 TYPICAL FORWARD VOLTAGE**

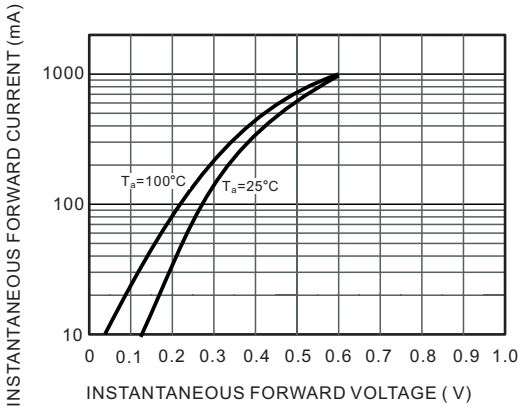



**Fig.4 Typical Junction Capacitance**

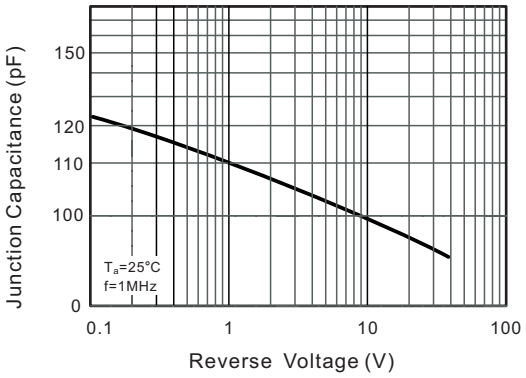



**Fig.5 Maximum Non-Repetitive Peak Forward Surage Current**

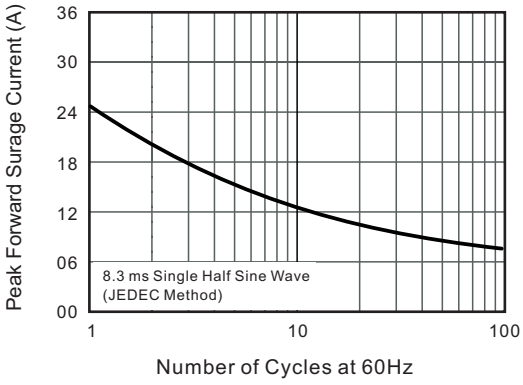
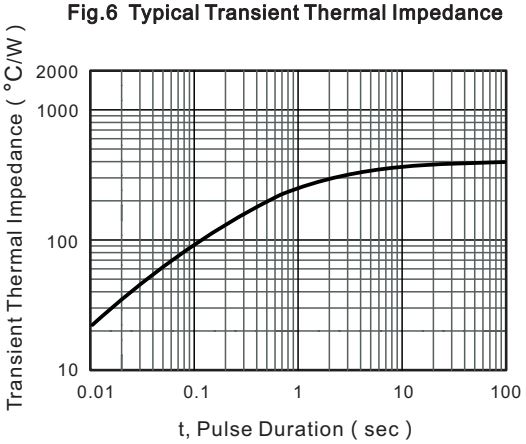


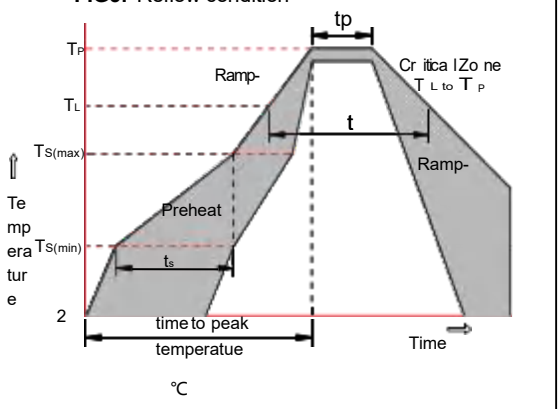

**Fig.6 Typical Transient Thermal Impedance**



## Soldering parameters

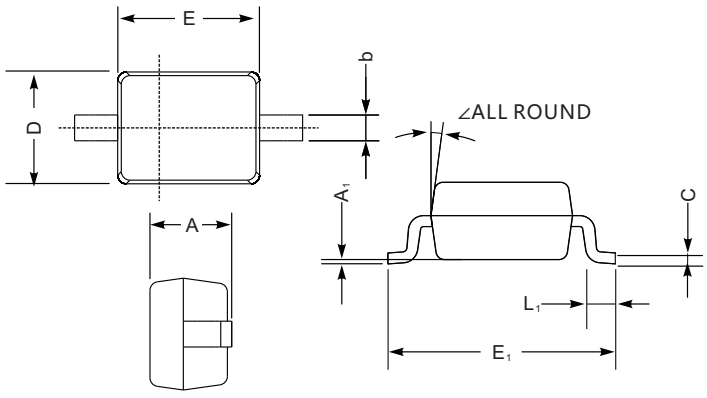
| Reflow Condition | | Pb-Free assembly (see as bellow) |
|---|---|---|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150℃ |
| | -Temperature Max($T_{s(max)}$) | +200℃ |
| | -Time (Min to Max) (ts) | 60-180 secs. |
| Average ramp up rate (Liquid us Temp ($T_L$) to peak) | | 3℃/sec. Max |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate | | 3℃/sec. Max |
| Reflow | -Temperature($T_L$)(Liquid us) | +217℃ |
| | -Temperature($t_L$) | 60-150 secs. |
| Peak Temp ($T_p$) | | +260(+0/-5)℃ |
| Time within 5℃ of actual Peak Temp ($t_p$) | | 30 secs. Max |
| Ramp-down Rate | | 6℃/sec. Max |
| Time 25℃ to Peak Temp ($T_P$) | | 8 min. Max |
| Do not exceed | | +260℃ |

**FIG5:** Reflow condition



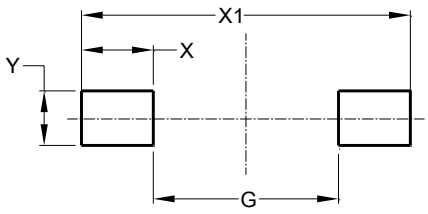

## Package Dimensions & Suggested Pad Layout

**SOD323**




SOD-323 mechanical data

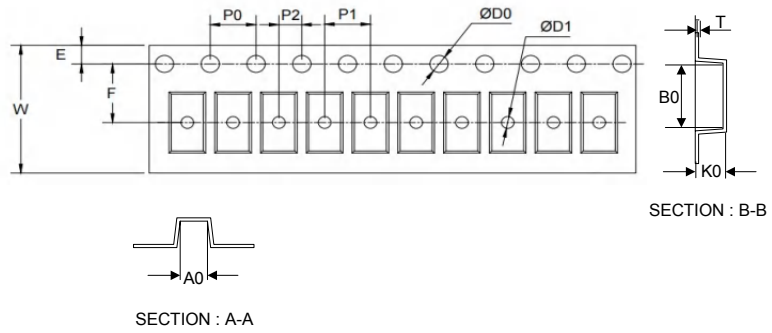
| UNIT | | A | C | D | E | $E_1$ | b | $L_1$ | $A_1$ | ∠ |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75 | 0.4 | 0.45 | 0.2 | 9° |
| | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55 | 0.25 | 0.2 | — | |
| mil | max | 43 | 5.9 | 55 | 70 | 108 | 16 | 16 | 8 | |
| | min | 32 | 3.1 | 47 | 63 | 100 | 9.8 | 7.9 | — | |




| Dimensions | Value (in mm) |
|---|---|
| G | 1.40 |
| X | 1.20 |
| X1 | 3.80 |
| Y | 1.00 |

## Tape & rell specification

Tape

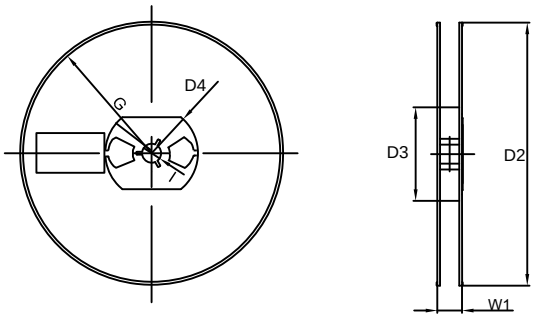



SECTION : B-B

SECTION : A-A

| Symbol | Dimension (mm) |
|---|---|
| P0 | 4.00±0.20 |
| P1 | 4.00±0.20 |
| P2 | 2.00±0.20 |
| D0 | 1.55±0.20 |
| D1 | 1.00±0.20 |
| E | 1.55±0.25 |
| F | 3.60±0.20 |
| W | 8.00±0.20 |
| A0 | 2.00±0.20 |
| B0 | 3.25±0.20 |
| K0 | 1.35±0.20 |
| T | 0.23±0.10 |

7” Reel




| | |
|---|---|
| D2 | 177.0±5.0 |
| D3 | 55Min. |
| D4 | R24.6±2.0 |
| G | R82.0±2.0 |
| I | 13.0±2.0 |
| W1 | 10.20±3.0 |

Quantity: 3000PCS