

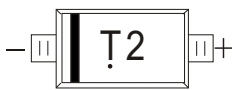
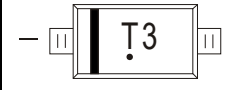
## SOD-323 Plastic-Encapsulate Diodes

### BAV19WS~BAV21WS SWITCHING DIODE

#### FEATURES

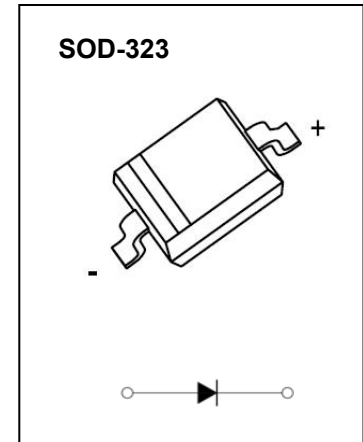
- Low Reverse Current
- Surface Mount Package Ideally Suited for Automatic Insertion
- Fast Switching Speed
- For General Purpose Switching Applications

#### MARKING:

| BAV19WS<br>A8                                                                     | BAV20WS<br>T2                                                                     | BAV21WS<br>T3                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |

The marking bar indicates the cathode

Solid dot = Green molding compound device.



#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

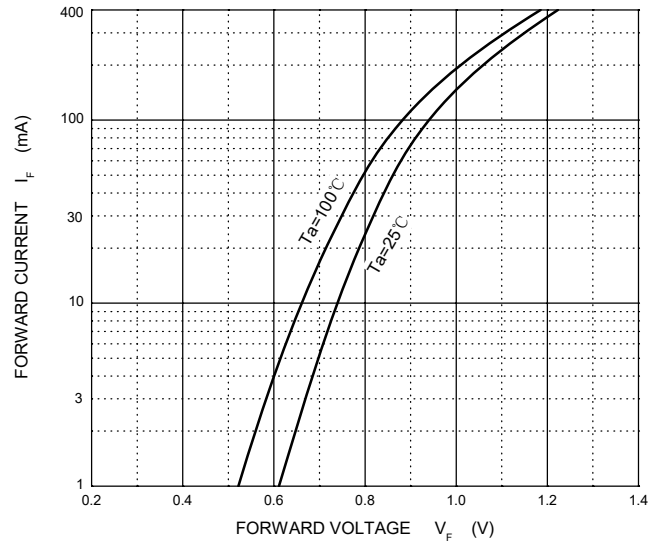
| Symbol          | Parameter                                                    | Value         |         |         | Unit                        |
|-----------------|--------------------------------------------------------------|---------------|---------|---------|-----------------------------|
|                 |                                                              | BAV19WS       | BAV20WS | BAV21WS |                             |
| $V_{RM}$        | Non-Repetitive Peak Reverse Voltage                          | 120           | 200     | 250     | V                           |
| $V_{RRM}$       | Peak Repetitive Reverse Voltage                              | 100           | 150     | 200     | V                           |
| $V_{RWM}$       | Working Peak Reverse Voltage                                 |               |         |         |                             |
| $V_{R(RMS)}$    | RMS Reverse Voltage                                          | 71            | 106     | 141     | V                           |
| $I_O$           | Average Rectified Output Current                             | 200           |         |         | mA                          |
| $I_{FSM}$       | Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ | 2.0           |         |         | A                           |
| $I_{FRM}$       | Repetitive Peak Forward Surge Current                        | 625           |         |         | mA                          |
| $P_D$           | Power Dissipation                                            | 250           |         |         | mW                          |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient                  | 500           |         |         | $^{\circ}\text{C}/\text{W}$ |
| $T_J, T_{stg}$  | Operation Junction and Storage Temperature Range             | $-55\sim+150$ |         |         | $^{\circ}\text{C}$          |

#### ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

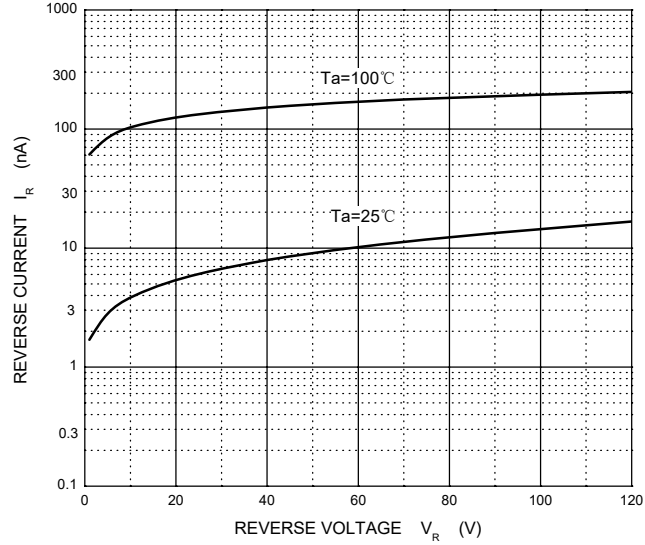
| Parameter             | Symbol    | Test conditions                                            |         | Min | Typ | Max  | Unit          |
|-----------------------|-----------|------------------------------------------------------------|---------|-----|-----|------|---------------|
| Reverse current       | $I_R$     | $V_R=100\text{V}$                                          | BAV19WS |     |     | 0.1  | $\mu\text{A}$ |
|                       |           | $V_R=150\text{V}$                                          | BAV20WS |     |     | 0.1  |               |
|                       |           | $V_R=200\text{V}$                                          | BAV21WS |     |     | 0.1  |               |
| Forward voltage       | $V_F$     | $I_F=100\text{mA}$                                         |         |     |     | 1    | V             |
|                       |           | $I_F=200\text{mA}$                                         |         |     |     | 1.25 |               |
| Total capacitance     | $C_{tot}$ | $V_R=0\text{V}, f=1\text{MHz}$                             |         |     |     | 5    | pF            |
| Reverse recovery time | $t_{rr}$  | $I_F=I_R=30\text{mA}, I_{rr}=0.1 \cdot I_R, R_L=100\Omega$ |         |     |     | 50   | ns            |

BAV19WS Typical Characteristics

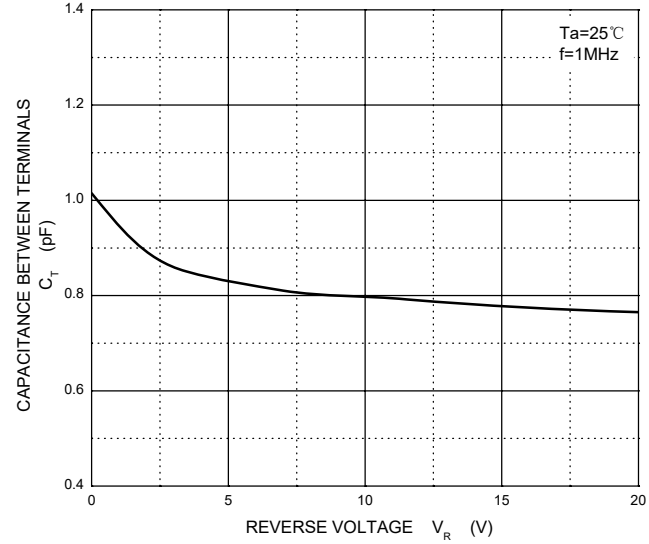
Forward Characteristics



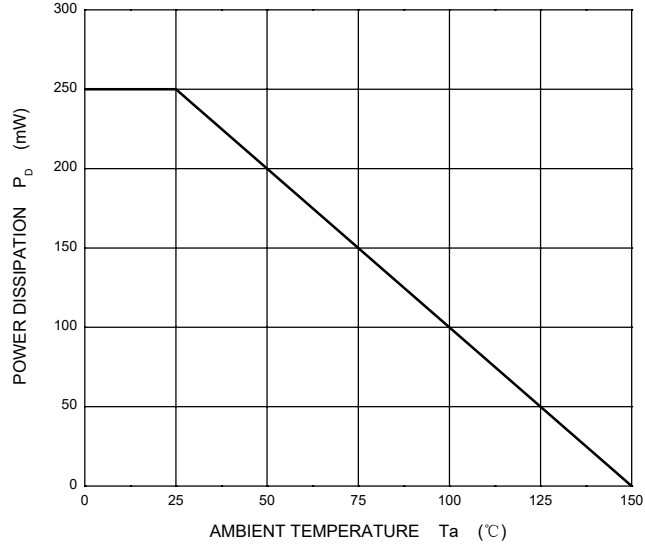
Reverse Characteristics



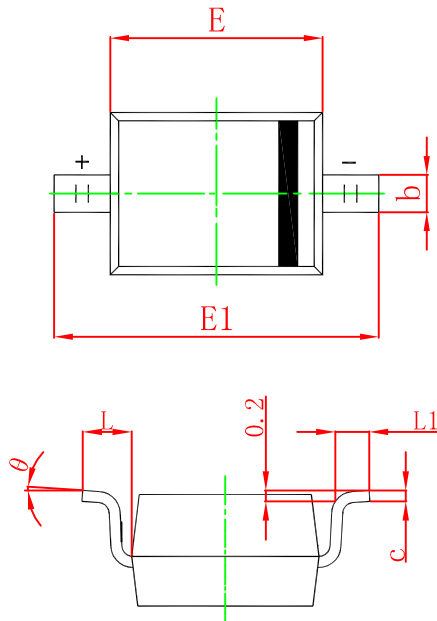
Capacitance Characteristics



Power Derating Curve

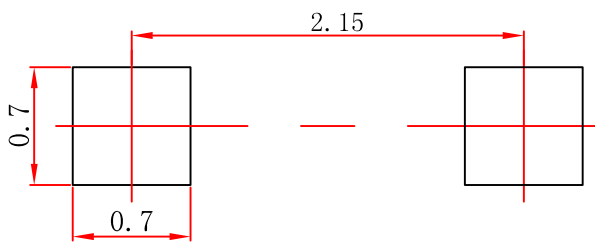


## SOD-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      |                           | 1.100 |                      | 0.043 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 1.000 | 0.031                | 0.039 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.500                     | 2.750 | 0.098                | 0.108 |
| L      | 0.475 REF                 |       | 0.019 REF            |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

## SOD-323 Suggested Pad Layout

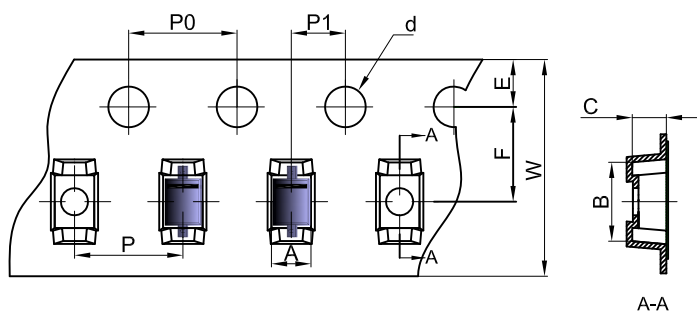
**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**NOTICE**

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

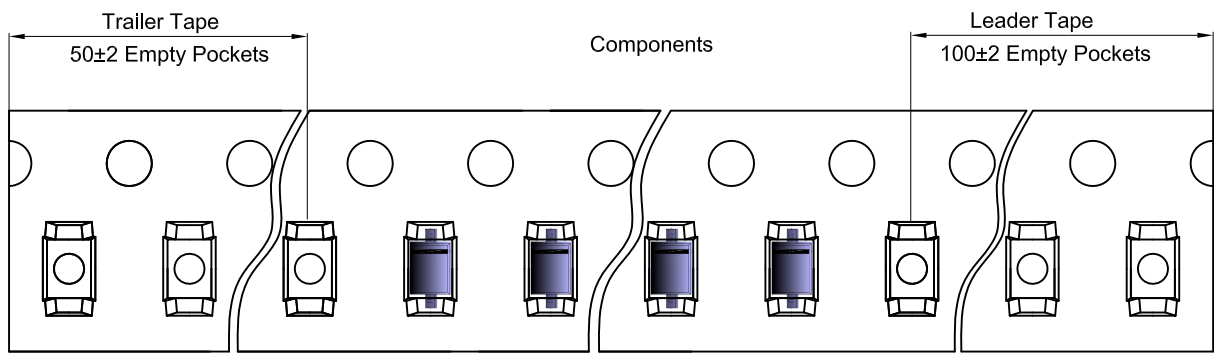
SOD-323 Embossed Carrier Tape



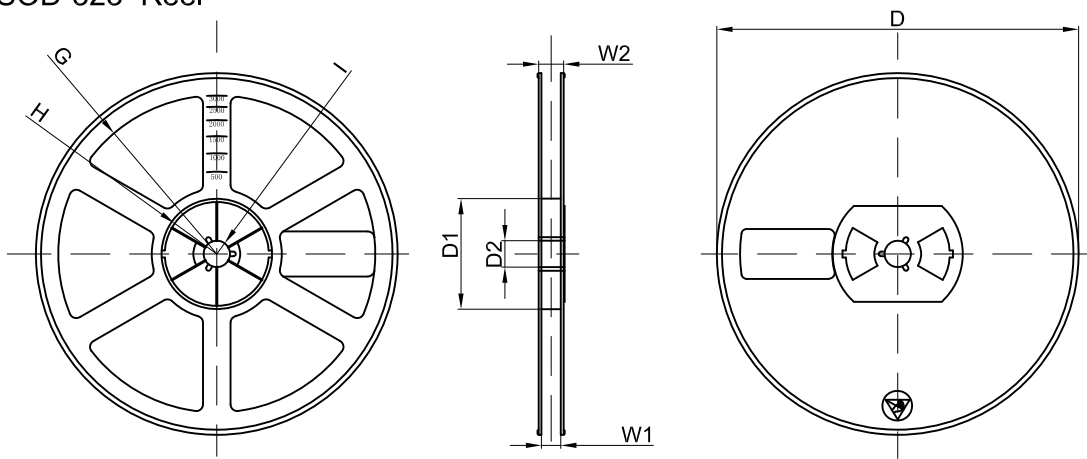
**Packaging Description:**  
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter |      |     |      |       |      |      |      |      |      |      |
|------------------------------|------|-----|------|-------|------|------|------|------|------|------|
| Pkg type                     | A    | B   | C    | d     | E    | F    | P0   | P    | P1   | W    |
| SOD-323                      | 1.48 | 3.3 | 1.25 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOD-323 Tape Leader and Trailer



SOD-323 Reel



| Dimensions are in millimeter |         |       |       |        |        |       |      |       |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option                  | D       | D1    | D2    | G      | H      | I     | W1   | W2    |
| 7"Dia                        | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL     | Reel Size | Box        | Box Size(mm) | Carton      | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch    | 45,000 pcs | 203×203×195  | 180,000 pcs | 438×438×220     |          |