



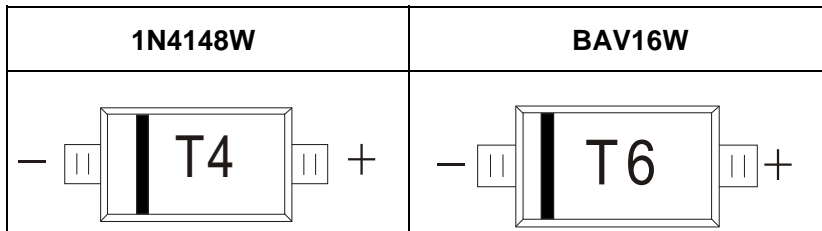
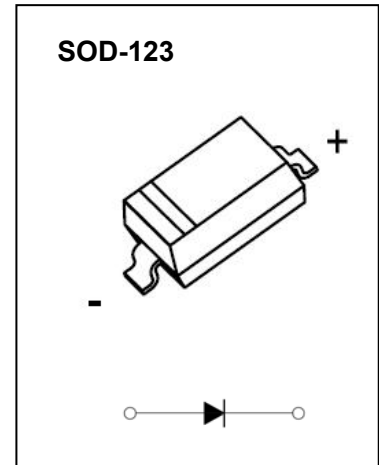
DONGGUAN NANJING ELECTRONICS LTD.,
SOD-123 Plastic-Encapsulate Diodes

BAV16W/1N4148W FAST SWITCHING DIODE

FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

MARKING: T6,T4



Maximum Ratings and Electrical Characteristics, Single Diode @T_a=25°C

| Parameter | Symbol | Limit | Unit |
|---|-----------------------------------|----------|------|
| Non-Repetitive Peak Reverse Voltage | V _{RM} | 100 | V |
| Peak Repetitive Peak Reverse Voltage | V _{RRM} | | |
| Working Peak Reverse Voltage | V _{RWM} | 100 | V |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 71 | V |
| Forward Continuous Current | I _{FM} | 300 | mA |
| Average Rectified Output Current | I _O | 150 | mA |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I _{FSM} | 2.0 | A |
| Power Dissipation | 1N4148W | 350 | mW |
| | BAV16W | 400 | |
| Thermal Resistance from Junction to Ambient(Note 1) | 1N4148W | 357.1 | °C/W |
| | BAV16W | 312.5 | |
| Operation Junction and Storage Temperature Range | T _J , T _{STG} | -55~+150 | °C |

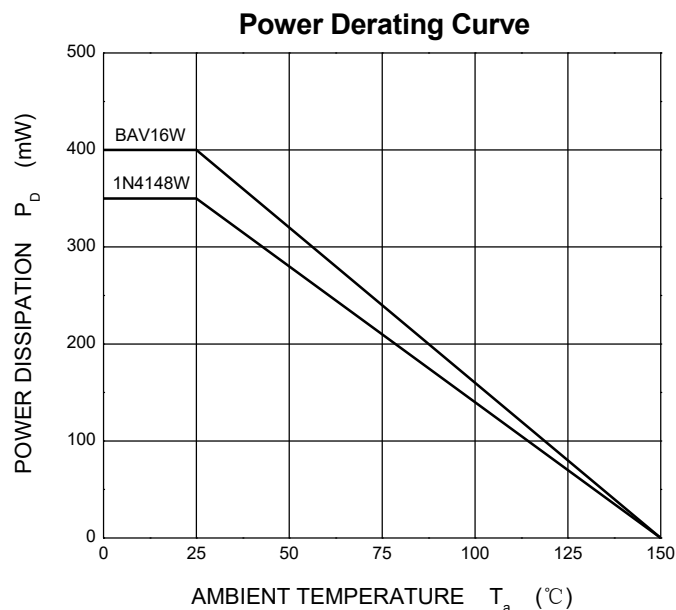
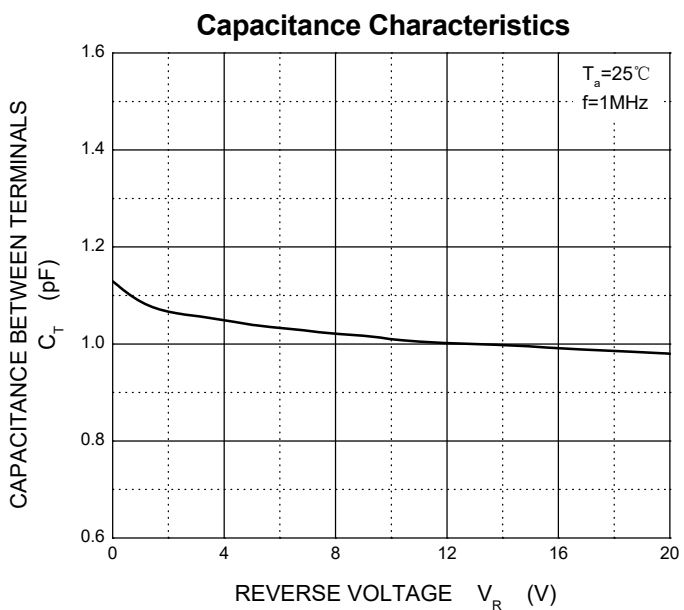
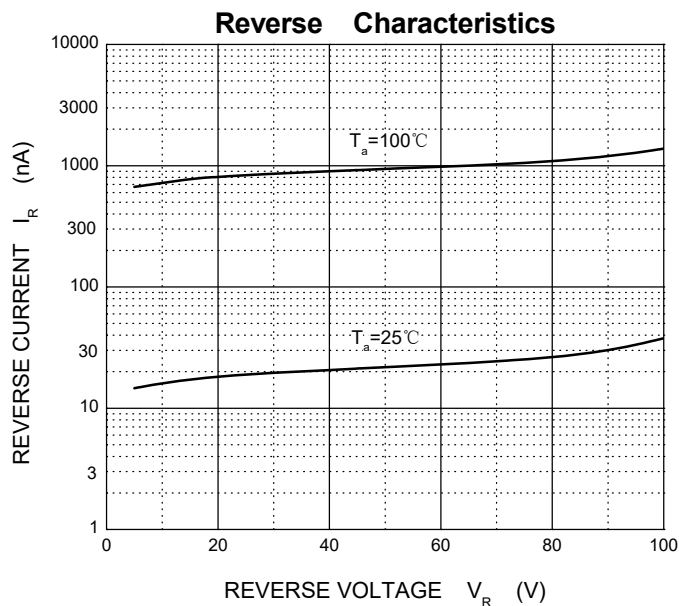
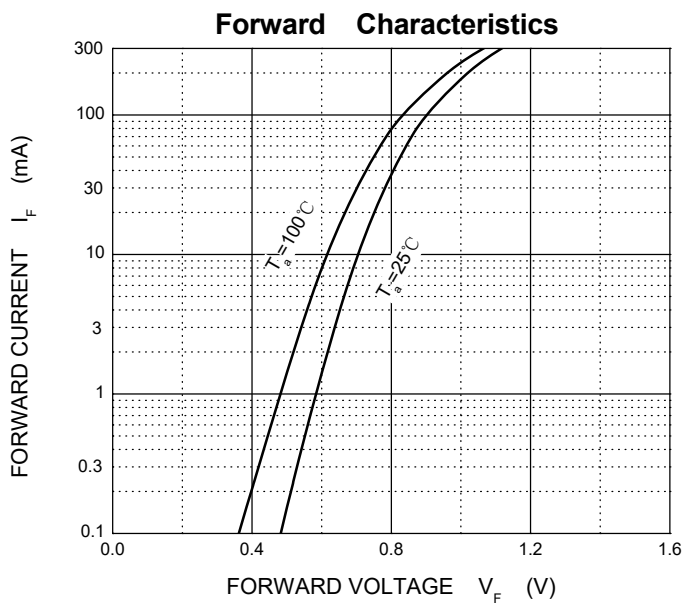
Note 1: Device mounted on 1"x1" FR4 PCB, 1oz single-side copper.

ELECTRICAL CHARACTERISTICS

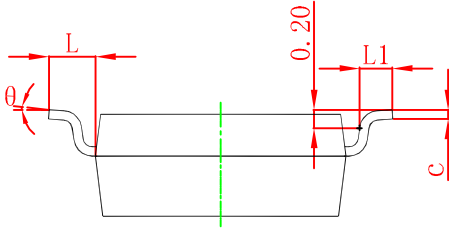
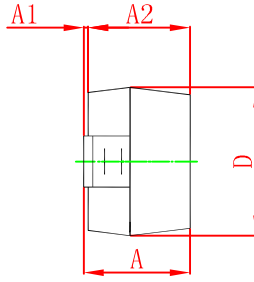
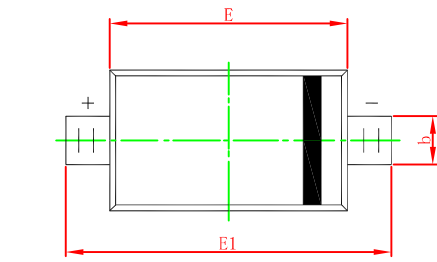
Electrical Ratings @Ta=25°C

| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|-------------------------------|----------|-----|-----|-------|---------------|---|
| Forward voltage | V_{F1} | | | 0.715 | V | $I_F=1\text{mA}$ |
| | V_{F2} | | | 0.855 | V | $I_F=10\text{mA}$ |
| | V_{F3} | | | 1.0 | V | $I_F=50\text{mA}$ |
| | V_{F4} | | | 1.25 | V | $I_F=150\text{mA}$ |
| Reverse current | I_{R1} | | | 1 | μA | $V_R=75\text{V}$ |
| | I_{R2} | | | 25 | nA | $V_R=20\text{V}$ |
| Capacitance between terminals | C_T | | | 2 | pF | $V_R=0\text{V}, f=1\text{MHz}$ |
| Reverse recovery time | t_{rr} | | | 4 | ns | $I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$ |

Typical Characteristics

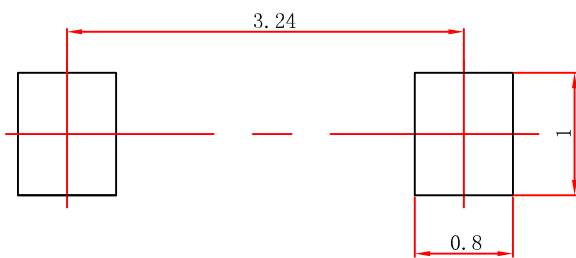


SOD-123 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.450 | 0.650 | 0.018 | 0.026 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.600 | 2.800 | 0.102 | 0.110 |
| E1 | 3.550 | 3.850 | 0.140 | 0.152 |
| L | 0.500 REF | | 0.020 REF | |
| L1 | 0.250 | 0.450 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

SOD-123 Suggested Pad Layout

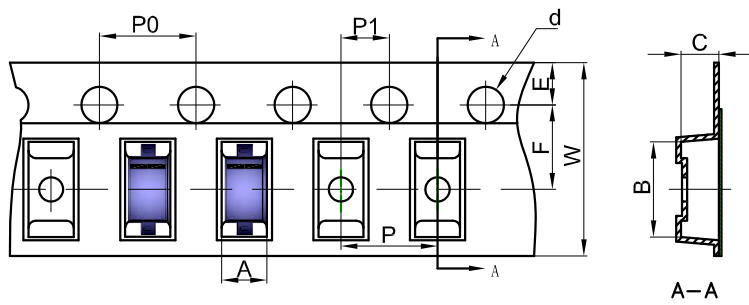


Note:

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

SOD-123 Tape and Reel

SOD-123 Embossed Carrier Tape



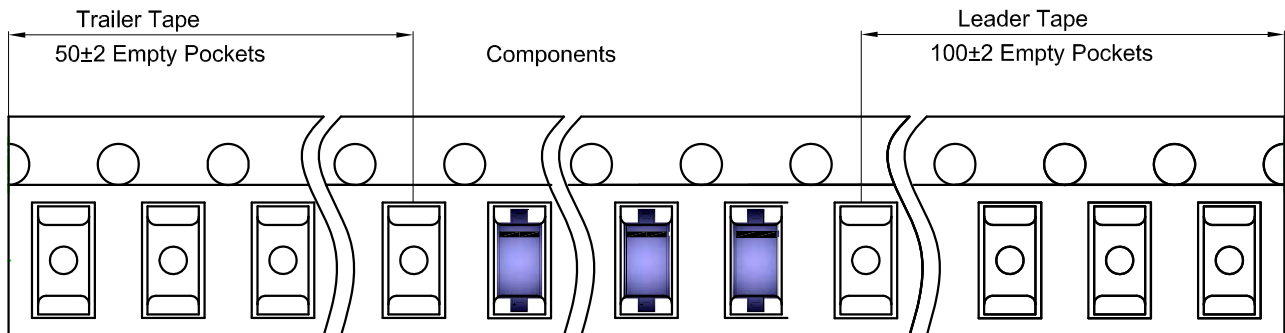
Packaging Description:

SOD-123 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).

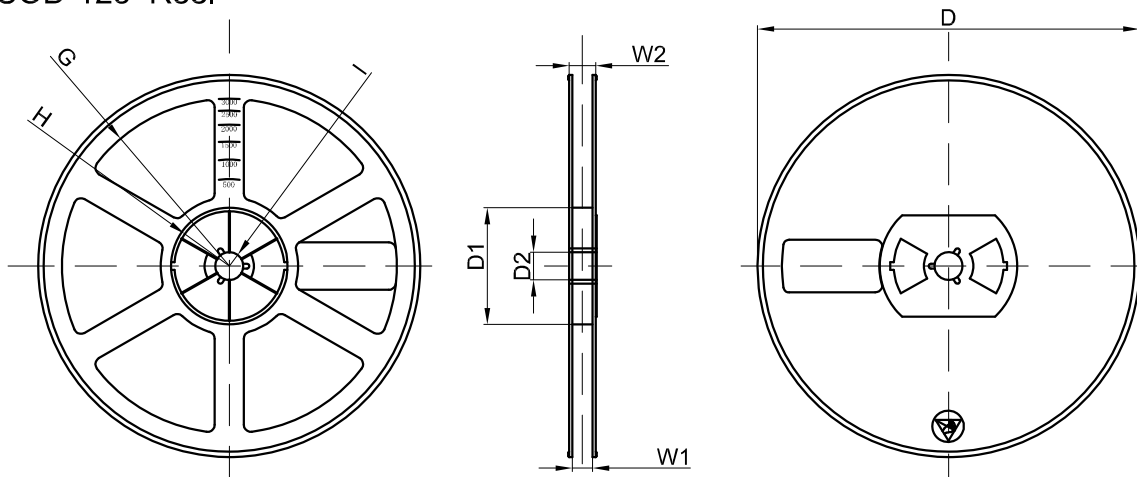
Dimensions are in millimeter

| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
|----------|------|------|------|-------|------|------|------|------|------|------|
| SOD-123 | 1.85 | 3.95 | 1.57 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOD-123 Tape Leader and Trailer



SOD-123 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 | |