

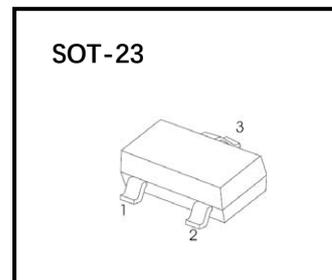


AD-BAW56/V70/V99 Plastic-Encapsulated Diode

AD-BAW56/V70/V99 Switching diode

FEATURES

- High switching speed
- For general purpose switching applications
- High conductance
- AEC-Q101 qualified



MARKING AND EQUIVALENT CIRCUIT

| AD-BAW56 | | AD-BAV70 | | AD-BAV99 | |
|----------|--------------------|----------|--------------------|----------|--------------------|
| Marking | Equivalent circuit | Marking | Equivalent circuit | Marking | Equivalent circuit |
| | | | | | |

\bar{A}^* = Device code

MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

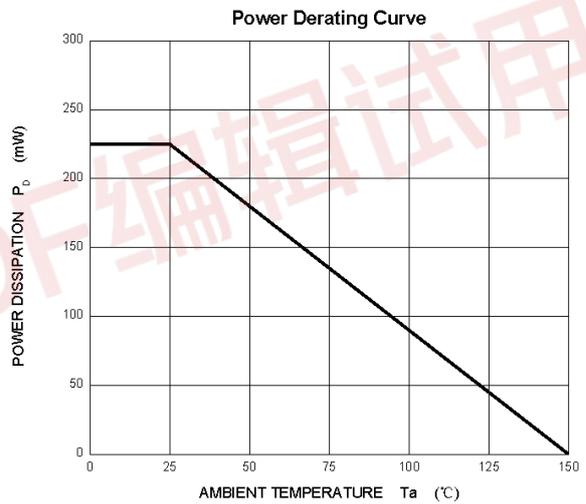
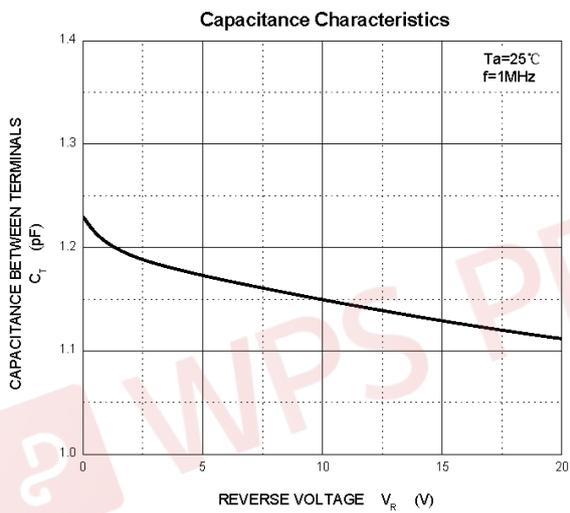
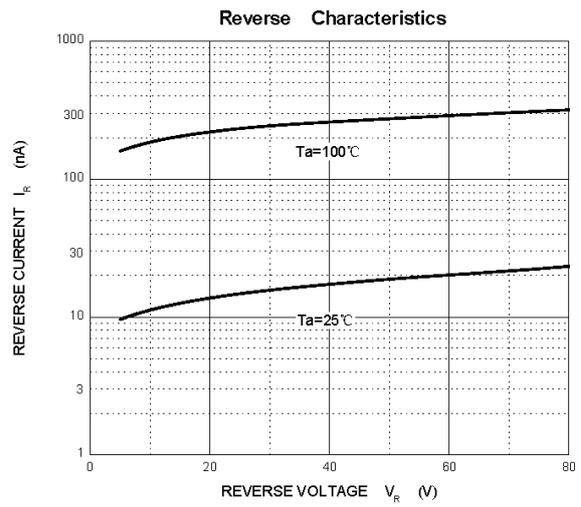
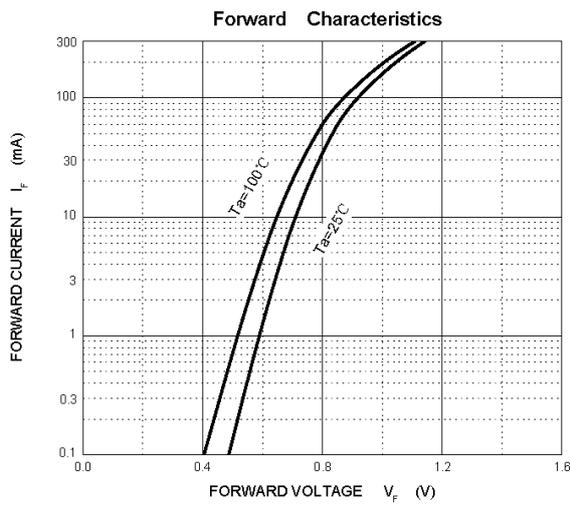
| Parameter | Symbol | Value | Unit |
|--|----------------------|-----------|--------------------|
| Peak repetitive reverse voltage | V_{RRM} | 70 | V |
| Forward continuous current | I_{FM} | 200 | mA |
| Non-repetitive peak forward surge current @ $t = 8.3\text{ms}$ | I_{FSM} | 2 | A |
| Power dissipation | P_D | 225 | mW |
| Thermal resistance from junction to ambient | $R_{\theta JA}^{1)}$ | 556 | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range | T_j, T_{stg} | -55 ~ 150 | $^\circ\text{C}$ |

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

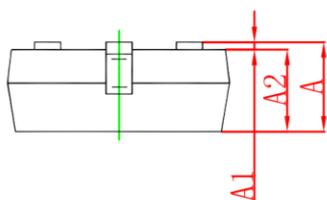
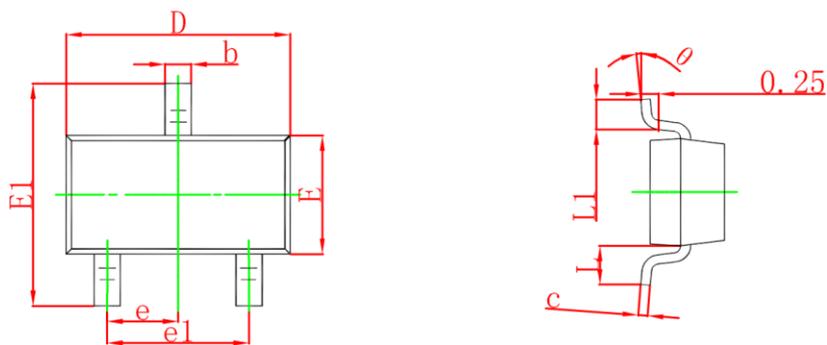
| Parameter | Symbol | Test condition | Min | Typ | Max | Unit |
|-------------------------------|----------|---|-----|-----|-------|---------------|
| Reverse breakdown voltage | V_{BR} | $I_R = 100\mu\text{A}$ | 70 | | | V |
| Forward voltage | V_{F1} | $I_F = 1\text{mA}$ | - | - | 0.715 | V |
| | V_{F2} | $I_F = 10\text{mA}$ | - | - | 0.855 | |
| | V_{F3} | $I_F = 50\text{mA}$ | - | - | 1 | |
| | V_{F4} | $I_F = 150\text{mA}$ | - | - | 1.25 | |
| Reverse current | I_R | $V_R = 70\text{V}$ | - | - | 2.5 | μA |
| Capacitance between terminals | C_T | $V_R = 0\text{V}, f = 1\text{MHz}$ | - | - | 1.5 | pF |
| Reverse recovery time | t_{rr} | $I_F = I_R = 10\text{mA}, I_{rr} = 1\text{mA}, R_L = 100\Omega$ | - | - | 6 | ns |

1) Measured with the device mounted on 1 inch² FR-4 board with 1oz. single-side copper, in a still air environment with $T_a = 25^\circ\text{C}$.

TYPICAL CHARACTERISTICS

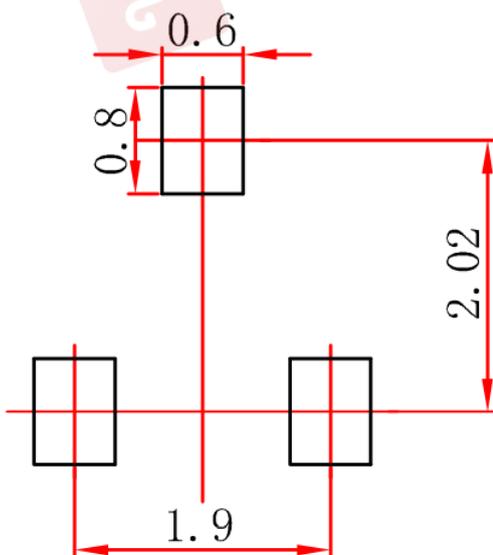


SOT-23 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 SUGGESTED PAD LAYOUT

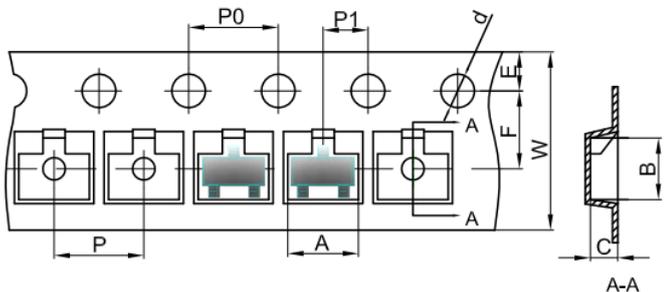


Note:

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

SOT-23 TAPE AND REEL

SOT-23 Embossed Carrier Tape

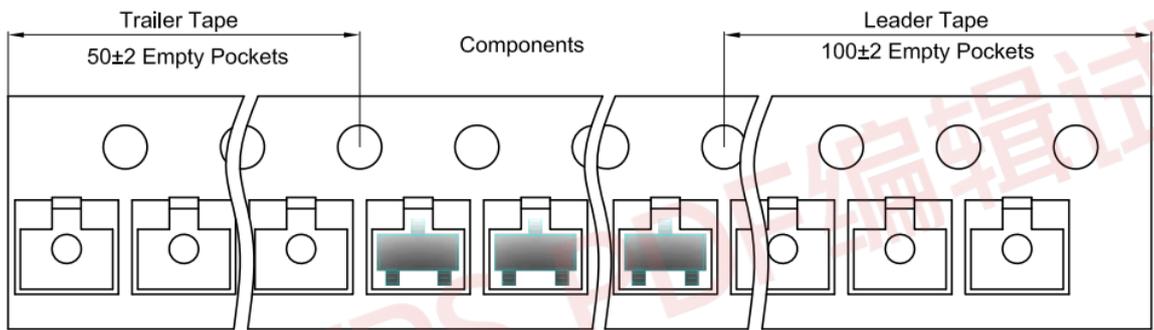


Packaging Description:
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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).

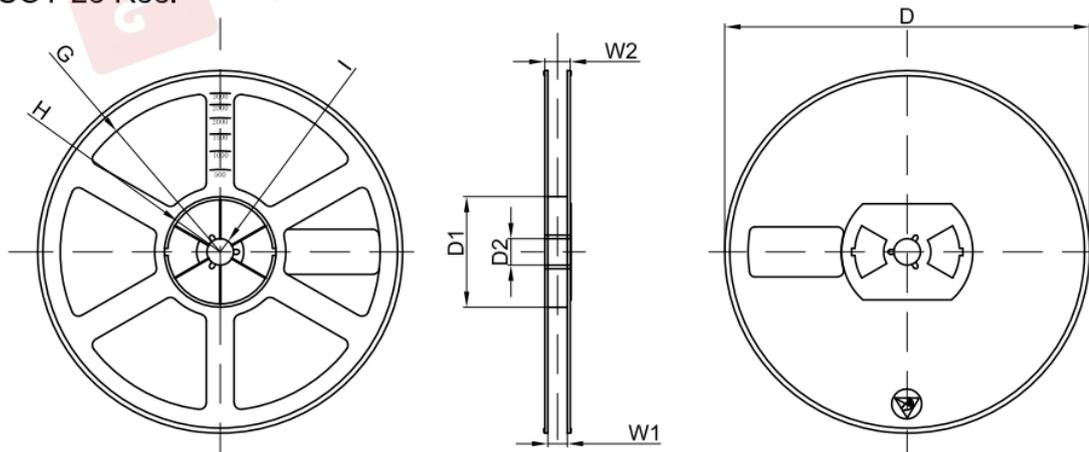
Dimensions are in millimeter

| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
|----------|------|------|------|-------|------|------|------|------|------|------|
| SOT-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-23 Tape Leader and Trailer



SOT-23 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 | |

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