

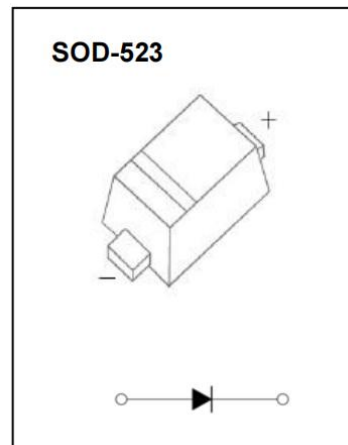


AD-1N4448X Plastic-Encapsulated Diode

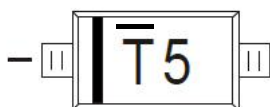
AD-1N4448X FAST SWITCHING DIODE

FEATURES

- Small package
- Low reverse current
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- AEC-Q101 qualified



MARKING: $\bar{T}5$



$\bar{T}5$ = Device code

The marking bar indicates the cathode

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

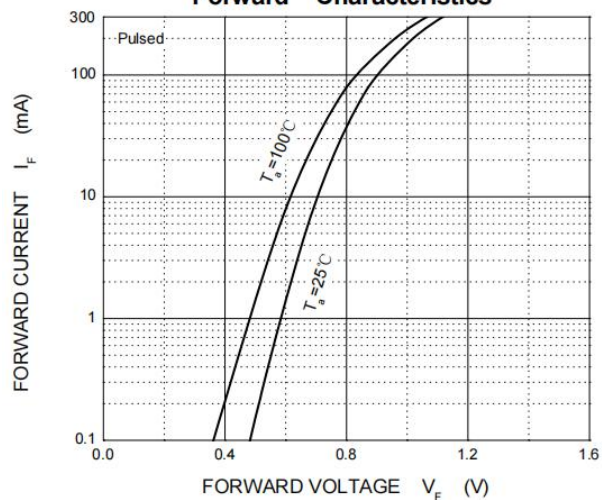
| Parameter | Symbol | Value | Unit |
|--|-----------------|------------|--------------------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 100 | V |
| DC blocking voltage | V_R | 75 | V |
| Peak Repetitive Peak Reverse Voltage | V_{RRM} | 100 | |
| Working Peak Reverse Voltage | V_{RWM} | 100 | |
| RMS reverse voltage | $V_{R(RMS)}$ | 53 | V |
| Forward Continuous Current | I_{FM} | 500 | mA |
| Average Rectified Output Current | I_O | 250 | mA |
| Non-repetitive peak forward surge current @ $t = 8.3\text{ms}$ | I_{FSM} | 2 | A |
| Power dissipation | P_D | 150 | mW |
| Thermal resistance from junction to ambient | $R_{\theta JA}$ | 833 | $^\circ\text{C/W}$ |
| Storage temperature range | T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

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

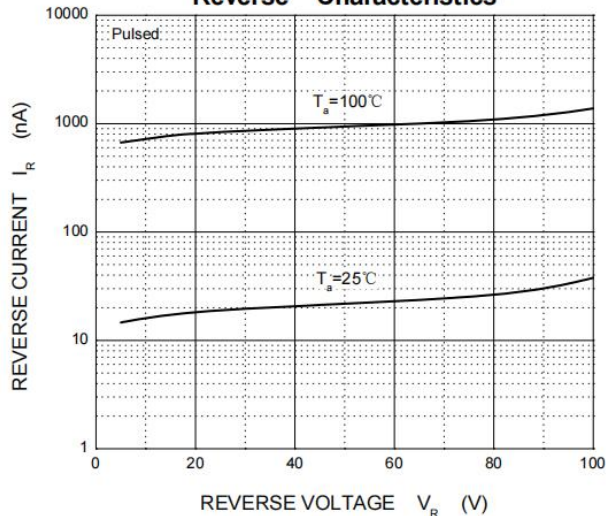
| Parameter | Symbol | Test condition | Min | Typ | Max | Unit |
|-------------------------------|-------------|---|------|-----|------|------|
| Reverse breakdown voltage | $V_{(BR)R}$ | $I_R = 5\mu\text{A}$ | 75 | | | V |
| | $V_{(BR)R}$ | $I_R = 100\mu\text{A}$ | 100 | | | V |
| Forward voltage | V_{F1} | $I_F = 5\text{mA}$ | 0.62 | | 0.72 | V |
| | V_{F2} | $I_F = 100\text{mA}$ | | | 1.0 | |
| | I_R | $V_R = 20\text{V}$ | | | 25 | nA |
| Reverse recovery time | T_{rr} | $I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1I_R$, $R_L = 100\Omega$ | | | 4 | ns |
| Capacitance between terminals | C_T | $V_R = 0\text{V}$, $f = 1\text{MHz}$ | | | 4 | pF |

TYPICAL CHARACTERISTICS

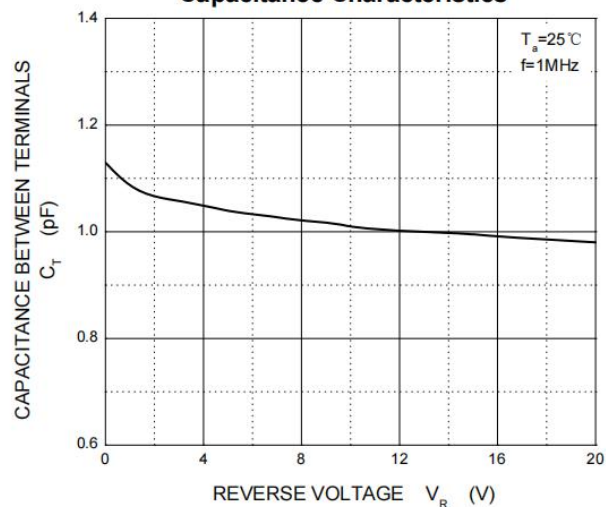
Forward Characteristics



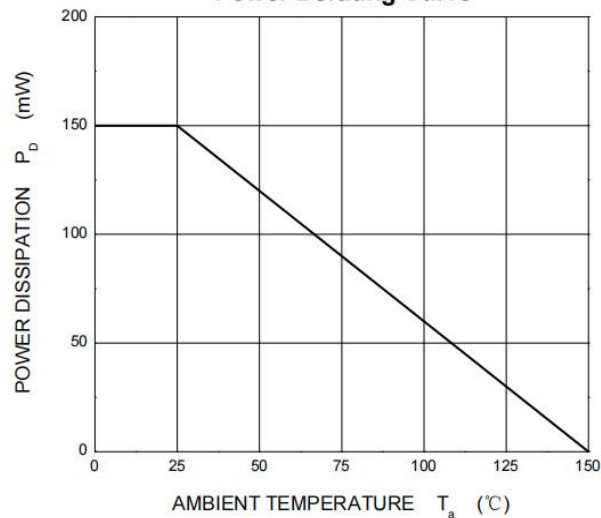
Reverse Characteristics



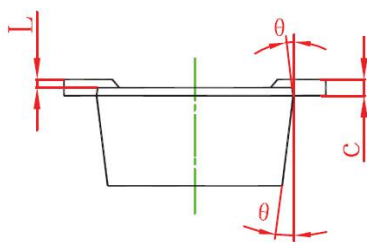
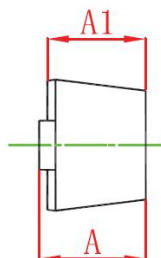
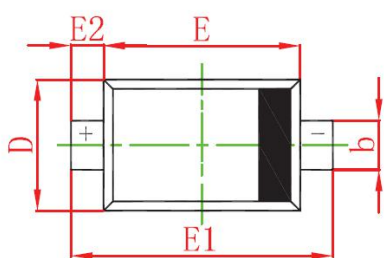
Capacitance Characteristics



Power Derating Curve

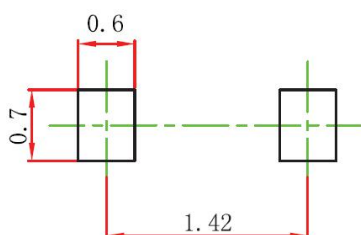


SOD-523 PACKAGE OUTLINE DIMENSIONS



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.510 | 0.770 | 0.020 | 0.031 |
| A1 | 0.500 | 0.700 | 0.020 | 0.028 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 0.750 | 0.850 | 0.030 | 0.033 |
| E | 1.100 | 1.300 | 0.043 | 0.051 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E2 | 0.200 REF | | 0.008 REF | |
| L | 0.010 | 0.070 | 0.001 | 0.003 |
| θ | 7° REF | | 7° REF | |

SOD-523 SUGGESTED PAD LAYOUT

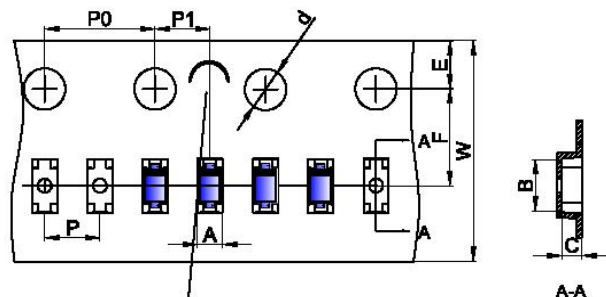


Note:

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

SOD-523 TAPE AND REEL

SOD-523 Embossed Carrier Tape



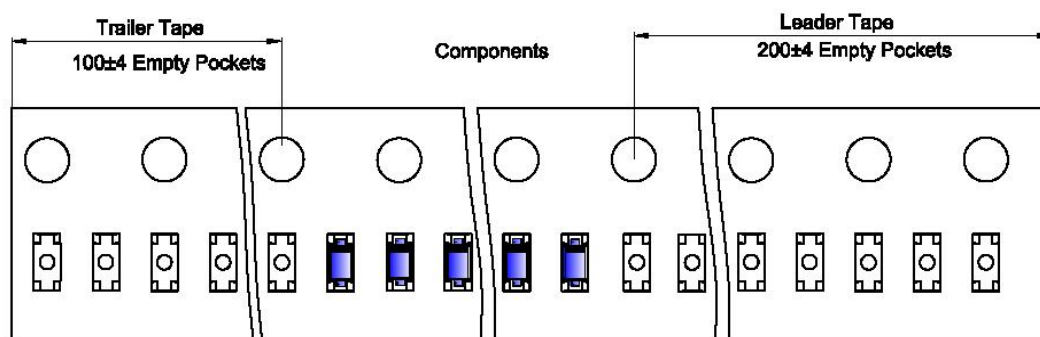
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

Packaging Description:

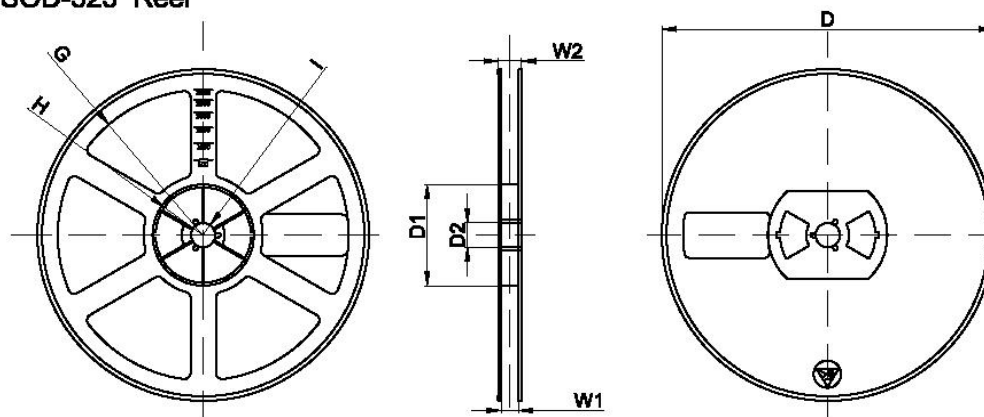
SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 8,000 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-523 | 0.9 | 1.94 | 0.73 | Ø1.50 | 1.75 | 3.50 | 4.00 | 2.00 | 2.00 | 8.00 |

SOD-523 Tape Leader and Trailer



SOD-523 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 | R25.80 | R8.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|----------|-----------|-------------|--------------|-------------|-----------------|----------|
| 8000 pcs | 7 Inch | 120,000 pcs | 203×203×195 | 480,000 pcs | 438×438×220 | |

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