

SOD-523 Plastic-Encapsulate Diodes

1N4148WT FAST SWITCHING DIODE

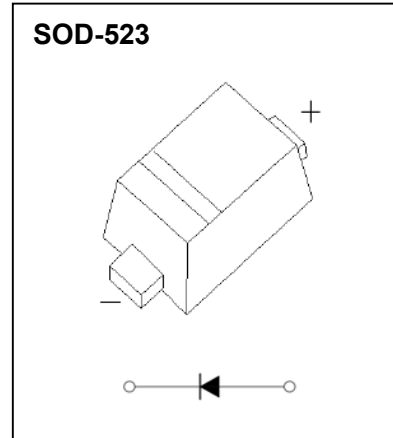
FEATURES

- Small Package
- Low Reverse Current
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion

MARKING:T4



The marking bar indicates the cathode



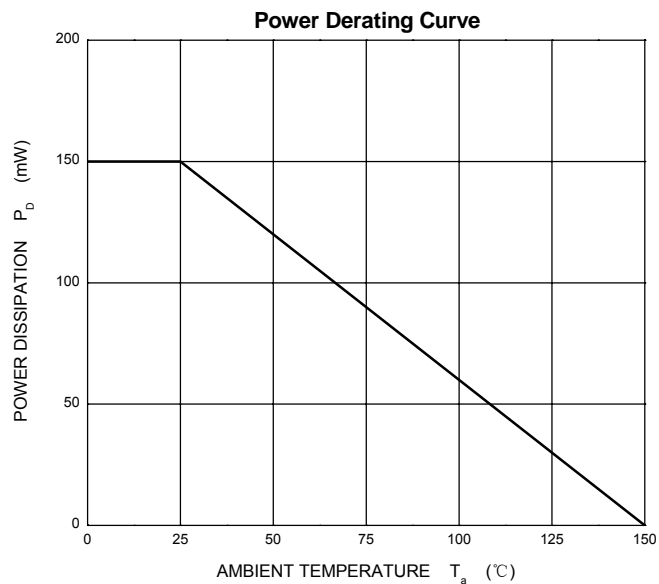
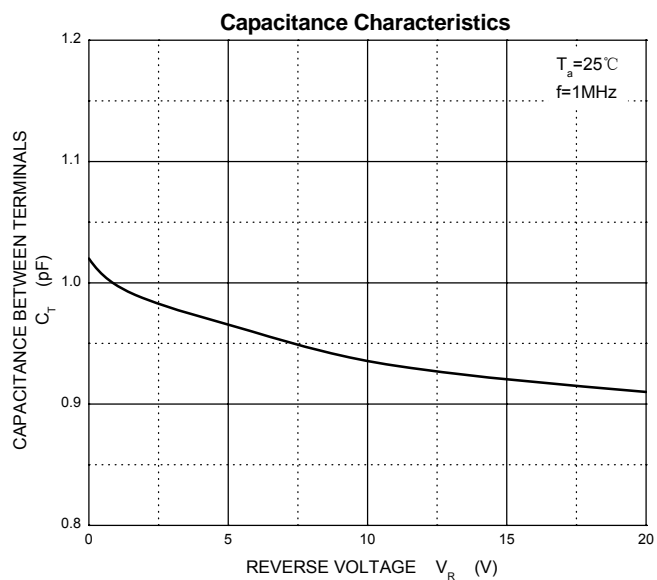
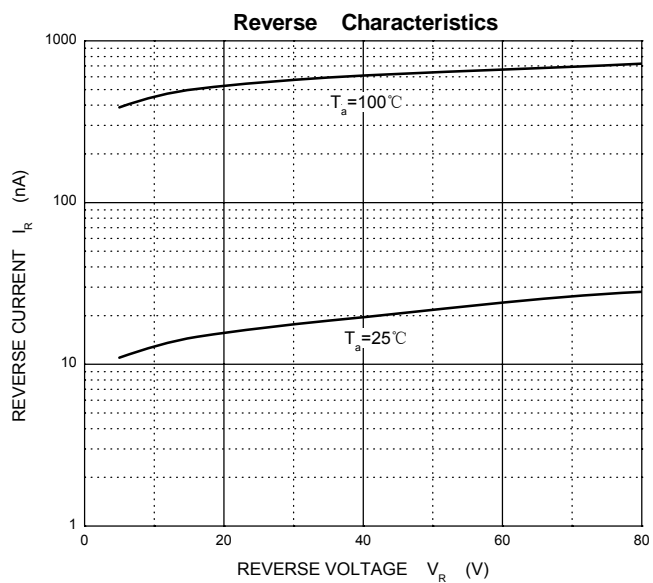
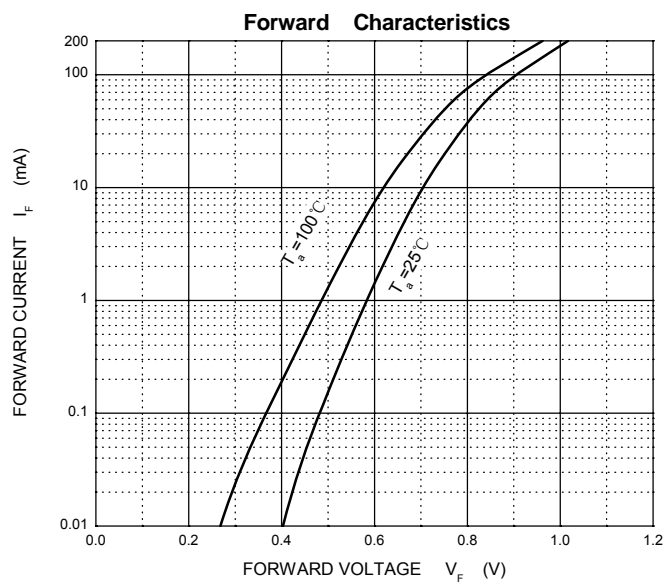
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|--|----------|-----------------------------|
| V_{RM} | Non-Repetitive Peak Reverse Voltage | 100 | V |
| V_R | Reverse Voltage | 75 | V |
| V_{RRM} | Peak Repetitive Reverse Voltage | | |
| V_{RWM} | Working Peak Reverse Voltage | | |
| $V_{R(RMS)}$ | RMS Reverse Voltage | 53 | V |
| I_O | Average Rectified Output Current | 150 | mA |
| I_{FM} | Forward Continuous Current | 300 | mA |
| I_{FSM} | Non-repetitive Peak Forward Surge Current@t= 8.3ms | 2 | A |
| P_D | Power Dissipation | 150 | mW |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient | 833 | $^{\circ}\text{C}/\text{W}$ |
| T_J, T_{stg} | Operation Junction and Storage Temperature Range | -55~+150 | $^{\circ}\text{C}$ |

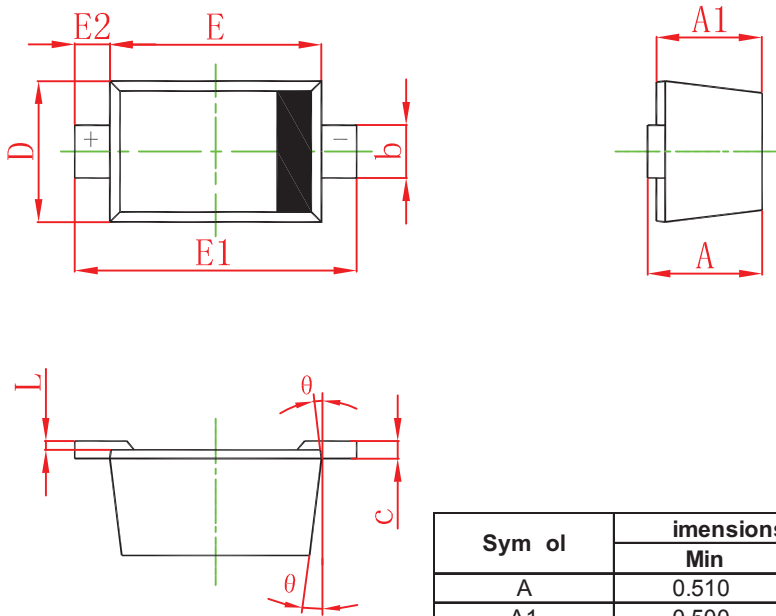
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|-----------------------|------------|--|-----|-----|-------|---------------|
| Reverse voltage | $V_{(BR)}$ | $I_R=1\mu\text{A}$ | 75 | | | V |
| Reverse current | I_R | $V_R=75\text{V}$ | | | 1 | μA |
| | | $V_R=20\text{V}$ | | | 25 | nA |
| Forward voltage | V_F | $I_F=1\text{mA}$ | | | 0.715 | V |
| | | $I_F=10\text{mA}$ | | | 0.855 | V |
| | | $I_F=50\text{mA}$ | | | 1 | V |
| | | $I_F=150\text{mA}$ | | | 1.25 | V |
| Total capacitance | C_{tot} | $V_R=0\text{V}, f=1\text{MHz}$ | | | 2 | pF |
| Reverse recovery time | t_{rr} | $I_F=I_R=10\text{mA}, I_{rr}=0.1*I_R, R_L=100\Omega$ | | | 4 | ns |

Typical Characteristics

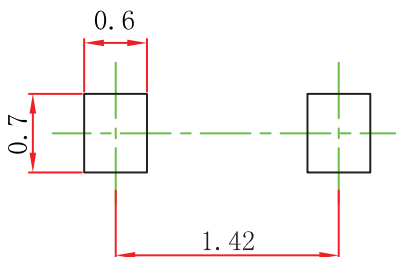


SOD-523 Package Outline Dimensions



| Sym ol | 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:

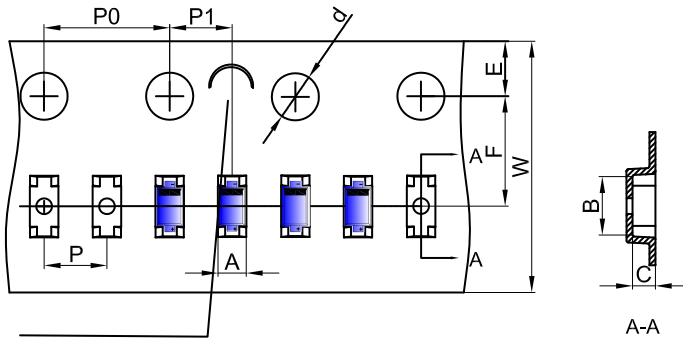
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

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-523 Tape and Reel

SOD-523 Embossed Carrier Tape



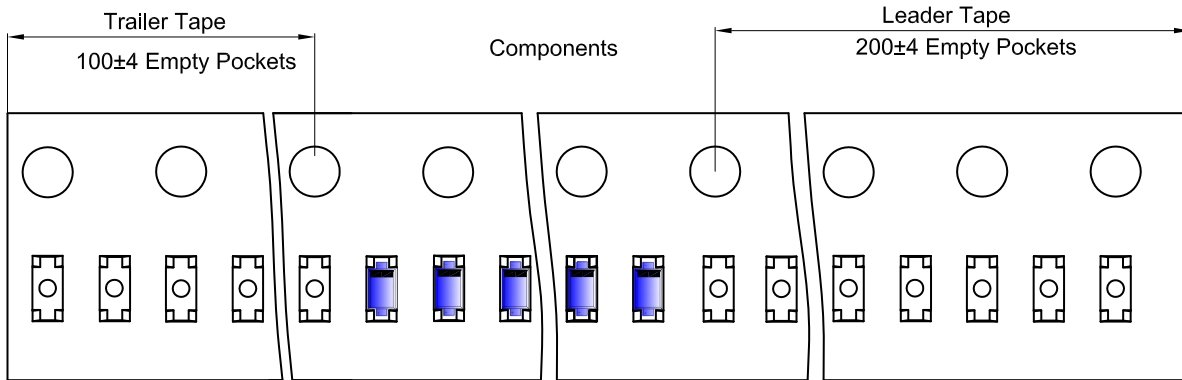
Packaging Description:

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).

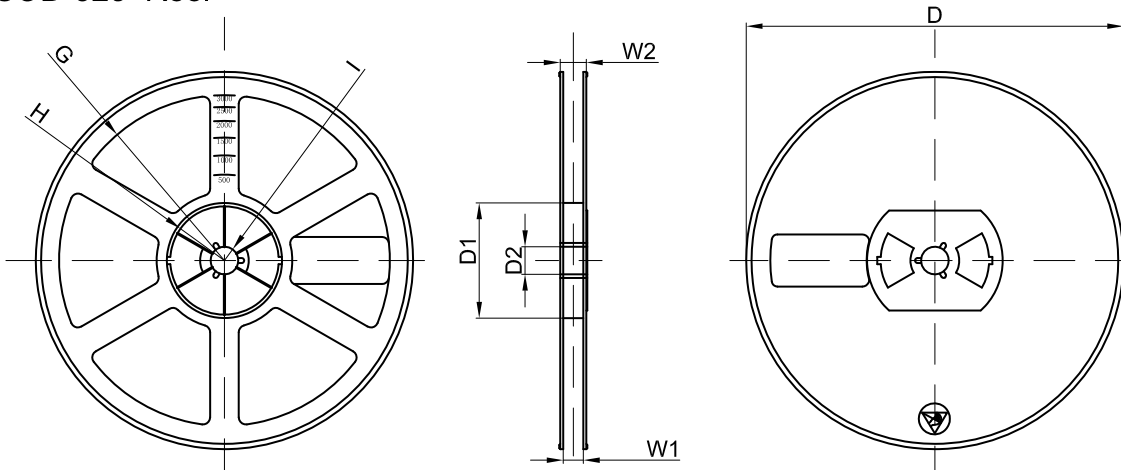
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

| 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 | R25.60 | R6.50 | 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 | |