

## SOD-523 Plastic-Encapsulate Diodes

### B1020X SCHOTTKY BARRIER DIODE

#### FEATURES

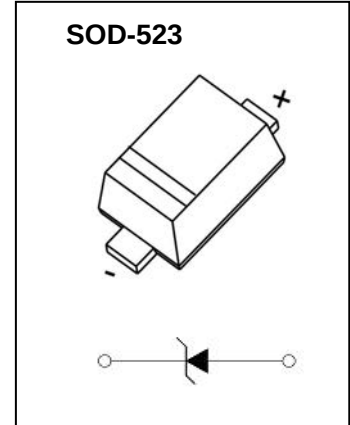
- Low Forward Voltage Drop
- Surface Mount Package Ideally Suited For Automatic Insertion

#### MARKING: L6



L6=Device code

The marking bar indicates the cathode



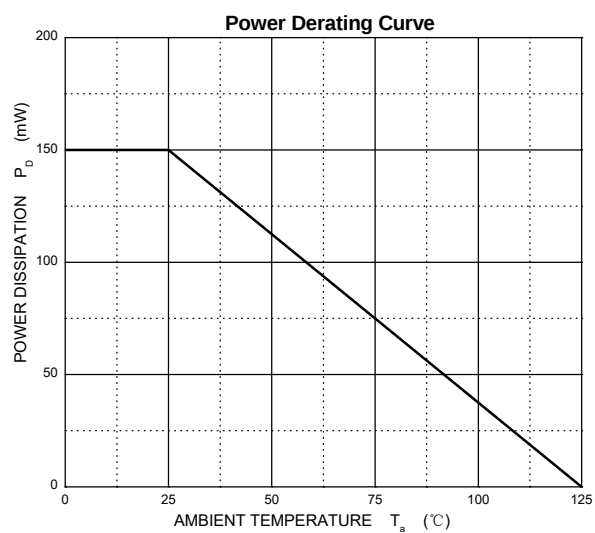
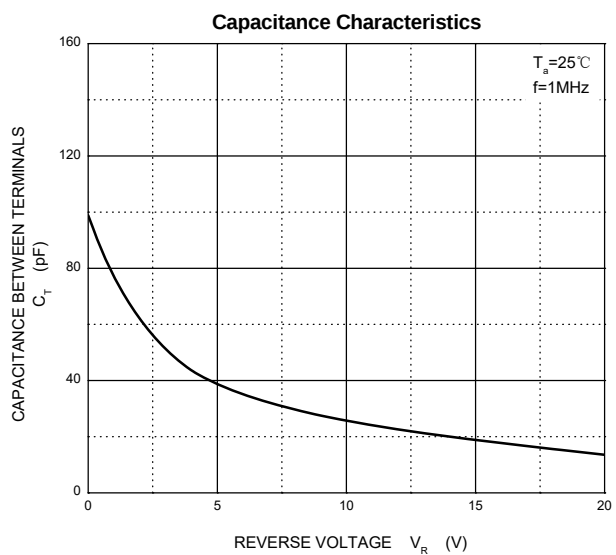
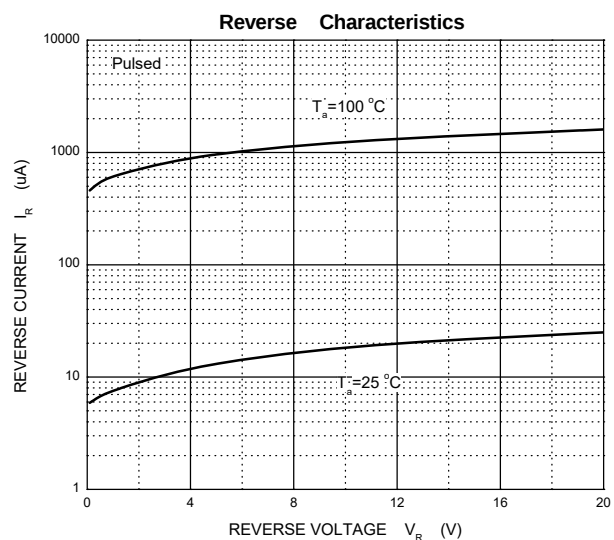
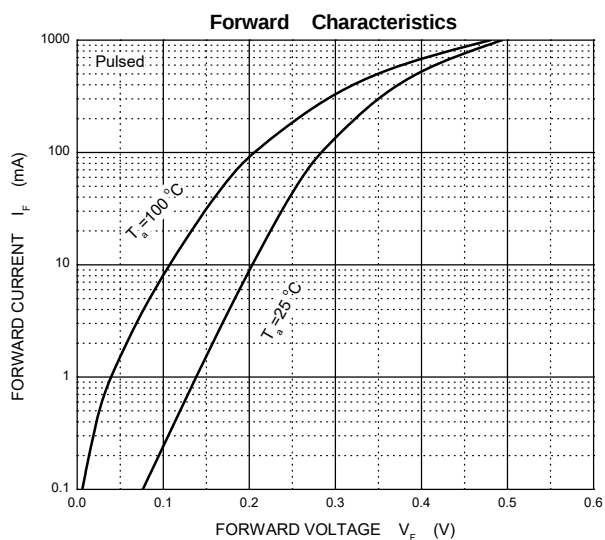
#### MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

| Symbol              | Parameter                                          | Limit      | Unit |
|---------------------|----------------------------------------------------|------------|------|
| V <sub>RRM</sub>    | Repetitive Peak Reverse Voltage                    | 20         | V    |
| V <sub>RWM</sub>    | Working Peak Reverse Voltage                       |            |      |
| V <sub>R</sub>      | DC Blocking Voltage                                |            |      |
| V <sub>R(RMS)</sub> | RMS Reverse Voltage                                | 14         | V    |
| I <sub>FM</sub>     | Forward Continuous Current                         | 1.0        | A    |
| I <sub>FSM</sub>    | Non-repetitive Peak Forward Surge Current @t=8.3ms | 4          | A    |
| P <sub>D</sub>      | Power Dissipation                                  | 150        | mW   |
| R <sub>θJA</sub>    | Thermal Resistance from Junction to Ambient        | 667        | °C/W |
| T <sub>j</sub>      | Operating Junction Temperature Range               | -40 ~ +125 | °C   |
| T <sub>stg</sub>    | Storage Temperature Range                          | -55 ~ +150 | °C   |

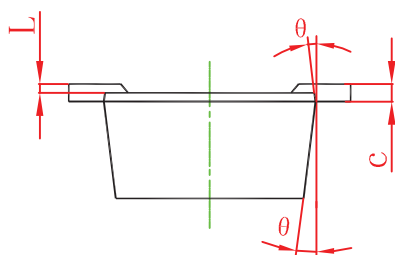
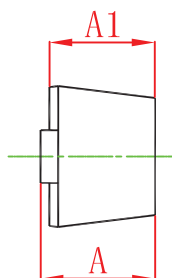
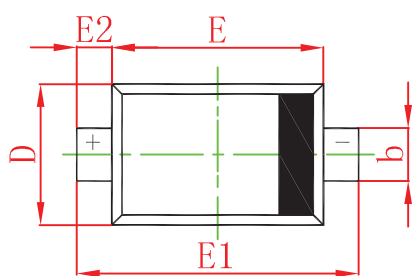
#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C unless otherwise specified)

| Parameter                     | Symbol            | Test Condition             | Min | Typ | Max   | Unit |
|-------------------------------|-------------------|----------------------------|-----|-----|-------|------|
| Reverse breakdown voltage     | V <sub>(BR)</sub> | I <sub>R</sub> =250μA      | 20  |     |       | V    |
| Reverse current               | I <sub>R</sub>    | V <sub>R</sub> =10V        |     |     | 80    | μA   |
|                               |                   | V <sub>R</sub> =20V        |     |     | 100   | μA   |
| Forward voltage               | V <sub>F</sub>    | I <sub>F</sub> =10mA       |     |     | 0.23  | V    |
|                               |                   | I <sub>F</sub> =100mA      |     |     | 0.305 | V    |
|                               |                   | I <sub>F</sub> =1A         |     |     | 0.50  | V    |
| Capacitance between terminals | C <sub>T</sub>    | V <sub>R</sub> =0V, f=1MHz |     |     | 120   | pF   |

## Typical Characteristics

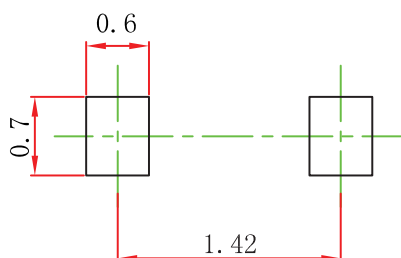


## SOD-523 Package Outline Dimensions



| 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



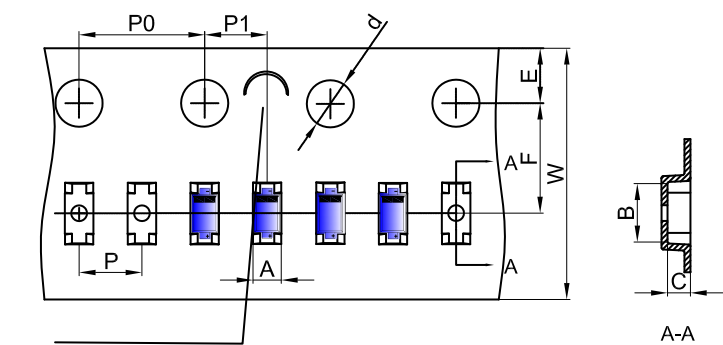
Note:

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



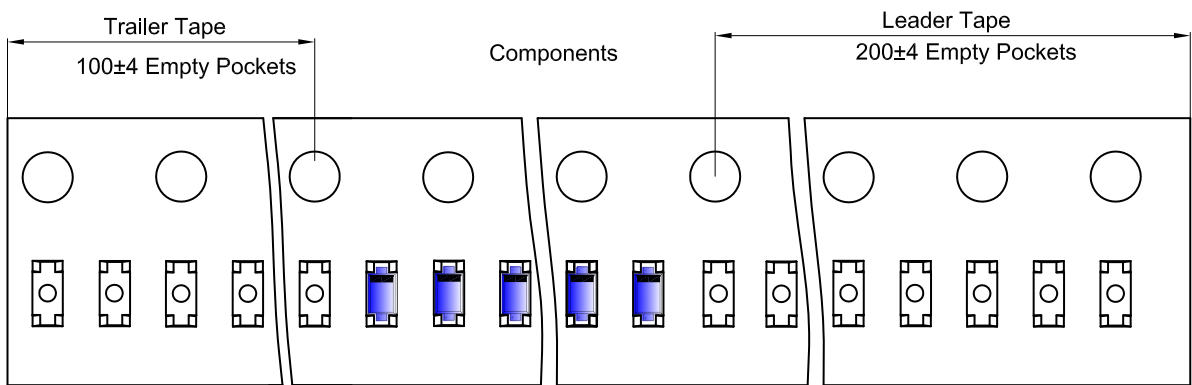
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

Packaging Description:

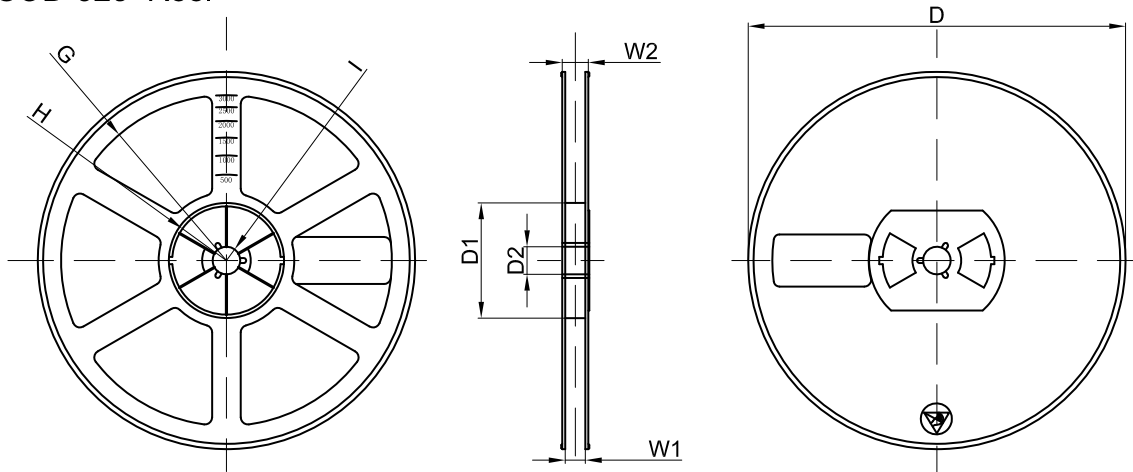
SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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 | R25.60 | 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     |          |