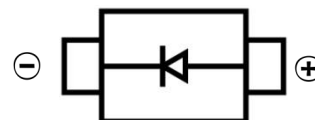


**SCHOTTKY BARRIER DIODE**
**FEATURES**

- Low Forward Voltage
- High frequency inverters
- Small Surface Mount device
- PN Junction Guard Ring for Transient and ESD Protection
- Low Capacitance


**SOD-123**
**MECHANICAL DATA**

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.005 grams (approximate)


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

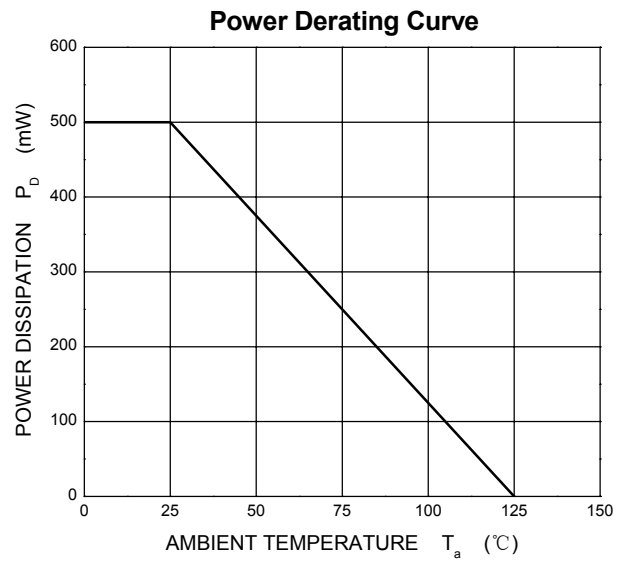
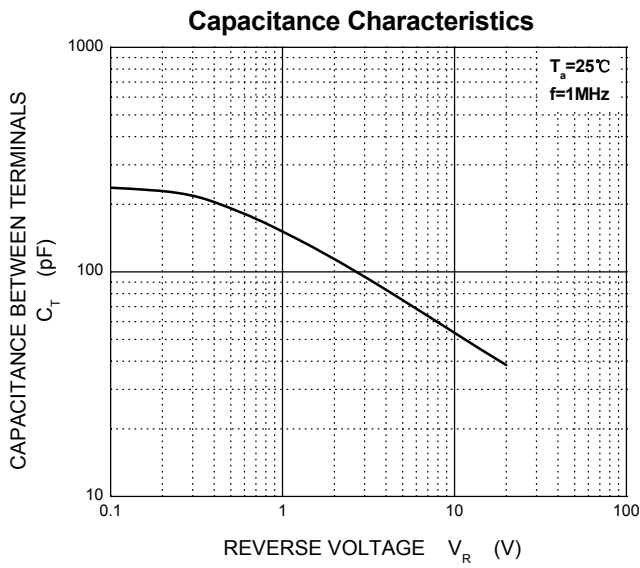
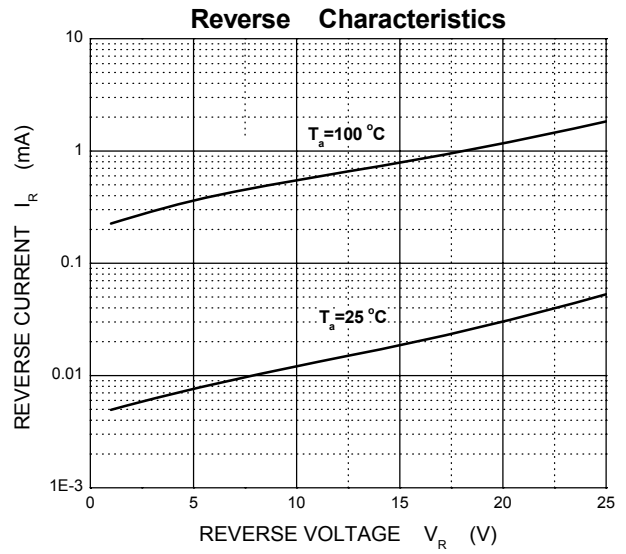
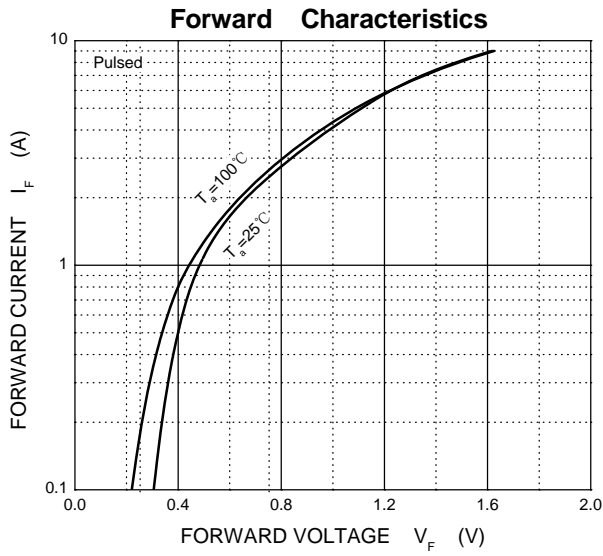
| Parameter   | Symbol              | 1N5817W   | 1N5818W | 1N5819W | Unit |
|---|---------------------|-----------|---------|---------|------|
| Peak Reverse Voltage                                  | V <sub>R</sub>      | 20        | 30      | 40      | V    |
| RMS Reverse Voltage                                   | V <sub>R(RMS)</sub> | 14        | 21      | 28      | V    |
| Forward Current                                       | I <sub>F</sub>      | 1         |         |         | A    |
| Non-Repetitive Peak Forward Surge Current@ t = 8.3 ms | I <sub>FSM</sub>    | 9         |         |         | A    |
| Power Dissipation                                     | P <sub>D</sub>      | 500       |         |         | mW   |
| Thermal Resistance From Junction To Ambient           | R <sub>θJA</sub>    | 200       |         |         | °C/W |
| Junction Temperature                                  | T <sub>J</sub>      | 125       |         |         | °C   |
| Storage Temperature                                   | T <sub>STG</sub>    | -55 ~+150 |         |         | °C   |

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

| Parameter                         | Symbol         | Test conditions  | 1N5817W        | 1N5818W        | 1N5819W        | Unit |
|-----------------------------------|----------------|--|----------------|----------------|----------------|------|
| Maximum forward voltage           | V <sub>F</sub> | I <sub>F</sub> = 1.0A<br>I <sub>F</sub> = 3.0A   | 0.450<br>0.750 | 0.550<br>0.875 | 0.600<br>0.900 | V    |
| Maximum reverse breakdown voltage | V <sub>R</sub> | I <sub>R</sub> = 1mA   | 20             | 30             | 40             | V    |
| Maximum reverse current           | I <sub>R</sub> | V <sub>R</sub> = 20V 1N5817W<br>V <sub>R</sub> = 30V 1N5818W<br>V <sub>R</sub> = 40V 1N5819W | 1.0            |                |                | mA   |
| Type junction capacitance         | C <sub>D</sub> | V <sub>R</sub> = 4.0V, f = 1MHz  | 120            |                |                | pF   |

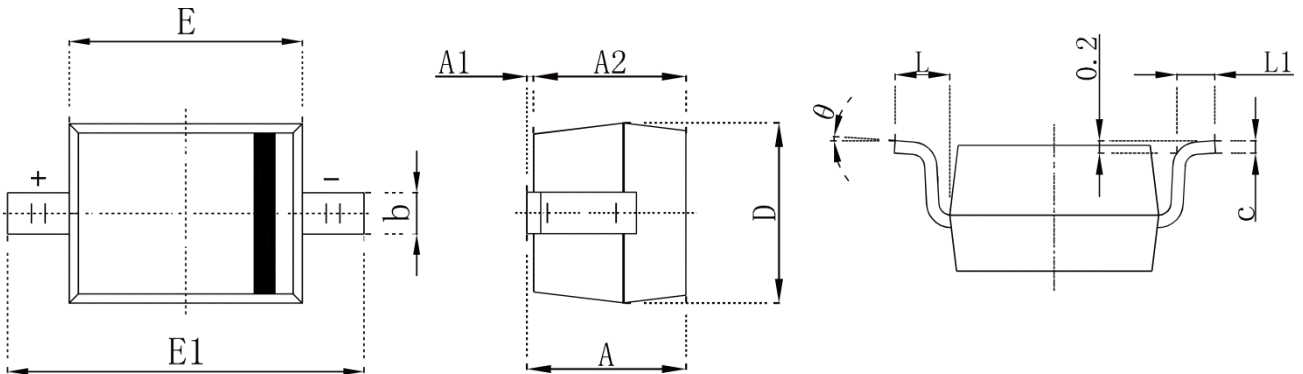
SCHOTTKY BARRIER DIODE

**Typical Characteristics**



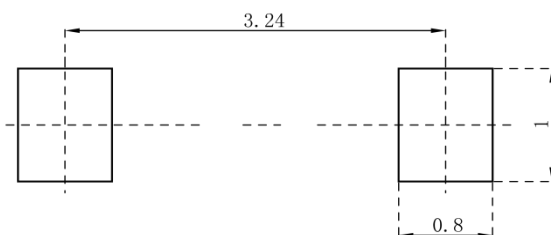
SCHOTTKY BARRIER DIODE

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      | 0.500REF                  |       | 0.020 REF            |       |
| L1     | 0.250                     | 0.450 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

SOD-123 Suggested Pad Layout



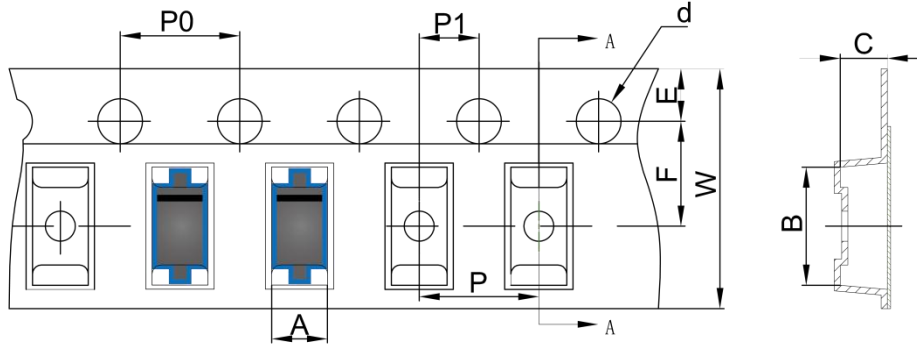
Note:

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

SCHOTTKY BARRIER DIODE

**SOD-123 Tape and Reel**

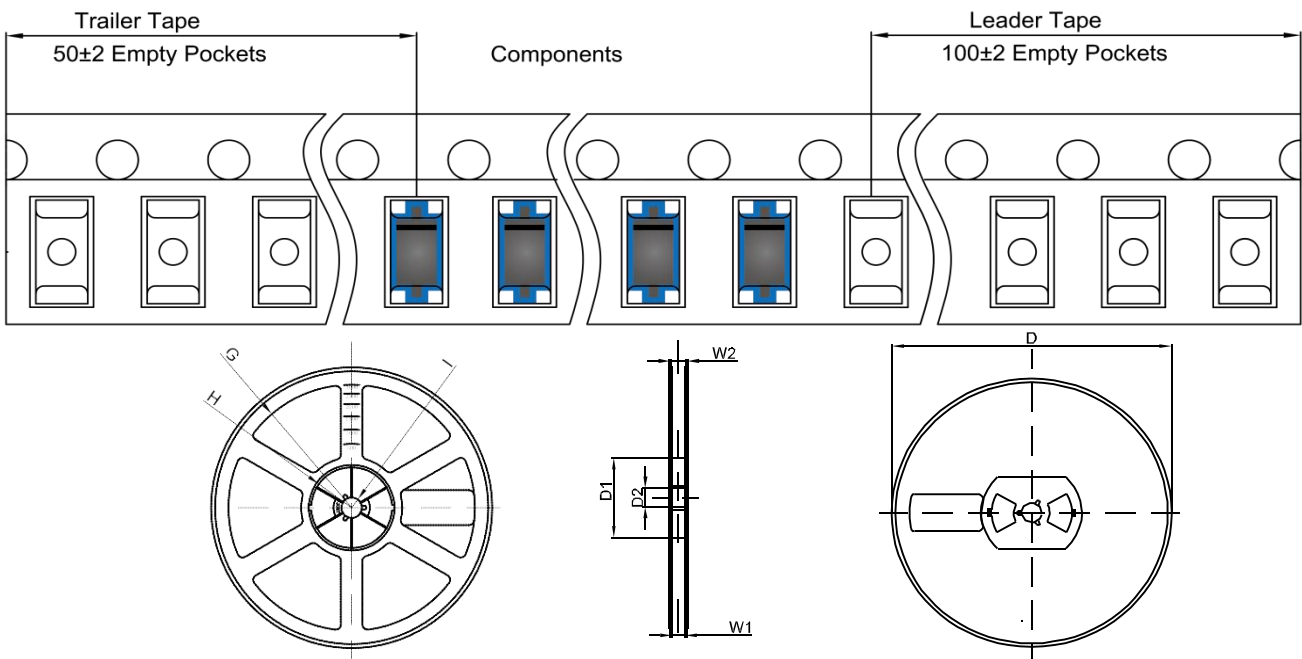
**SOD-123 Embossed Carrier Tape**



**SOD-123 Tape Leader and Trailer**

| DIMENSIONS ARE IN MILLIMETER |      |      |      |       |      |      |      |      |      |      |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| 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 |
| TOLERANCE                    | ±0.1 | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

**SOD-123 Reel**



| DIMENSIONS ARE IN MILLIMETER |      |       |       |     |        |       |      |       |
|------------------------------|------|-------|-------|-----|--------|-------|------|-------|
| REEL OPTION                  | D    | D1    | D2    | G   | H      | I     | W1   | W2    |
| 7" DIA                       | Ø178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 9.50 | 12.30 |
| TOLERANCE                    | ±2   | ±1    | ±1    | ±1  | ±1     | ±1    | ±1   | ±1    |

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[NRVB130LSFT1G](#) [CRS08TE85LQM](#) [PMAD1108-LF](#) [B120Q-13-F](#) [1N5819T-G](#) [B0530WSQ-7-F](#)