



## SOD-323 Plastic-Encapsulate Diodes

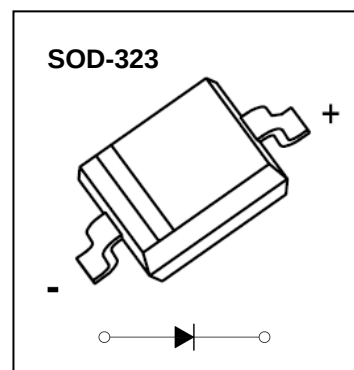
### B5817WS-5819WS SCHOTTKY BARRIER DIODE

#### FEATURES

For use in low voltage, high frequency inverters  
Free wheeling, and polarity protection applications

#### MARKING:

| B5817WS:SJ | B5818WS:SK | B5819WS:SL |
|------------|------------|------------|
|            |            |            |
|            |            |            |



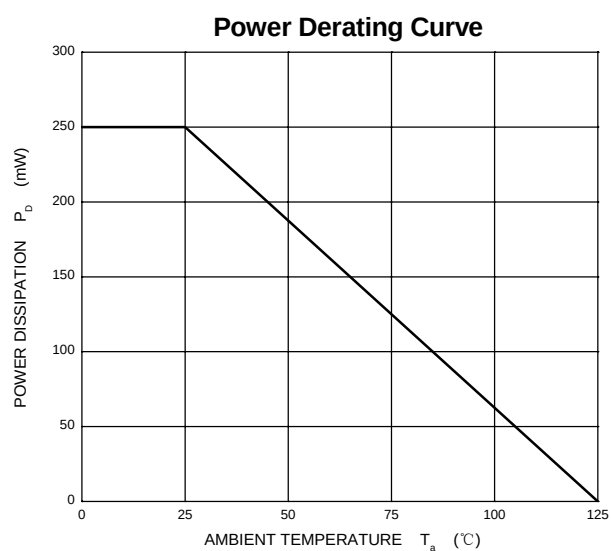
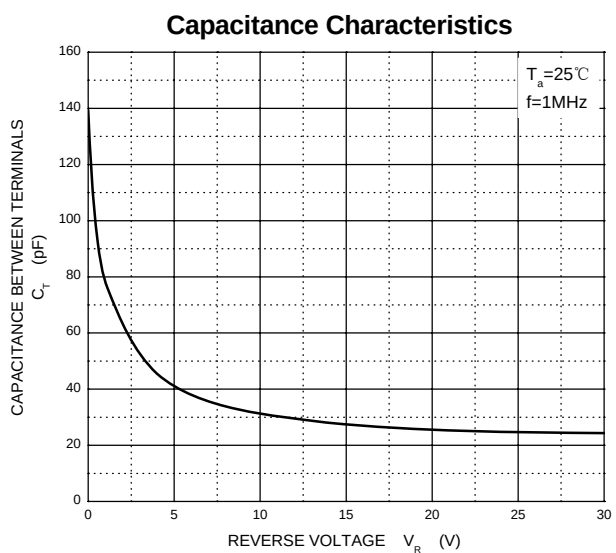
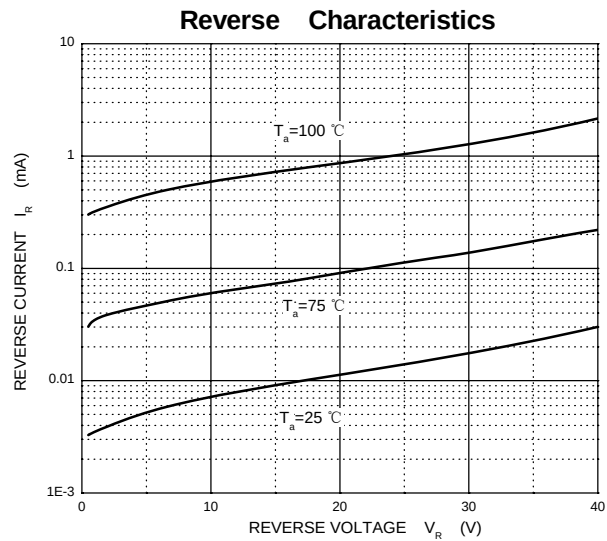
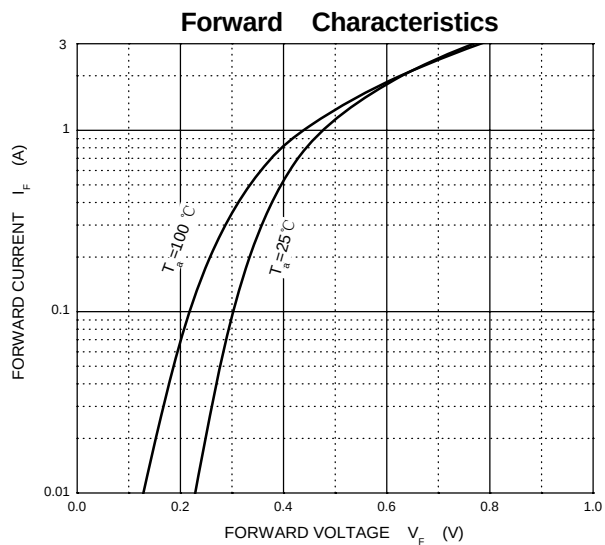
The marking bar indicates the cathode  
Solid dot = Green molding compound device, if none, the normal device.

#### Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

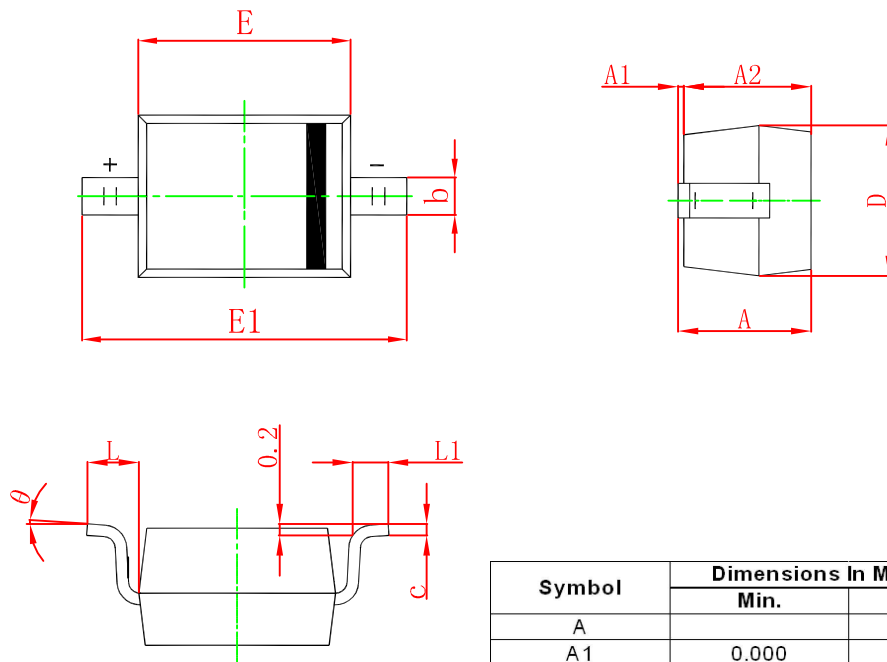
| Parameter                                                                                   | Symbol                          | B5817WS  | B5818WS | B5819WS | Unit |
|---------------------------------------------------------------------------------------------|---------------------------------|----------|---------|---------|------|
| Non-repetitive peak reverse voltage                                                         | $V_{RM}$                        | 20       | 30      | 40      | V    |
| Peak repetitive peak reverse voltage<br>Working peak reverse voltage<br>DC blocking voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 20       | 30      | 40      | V    |
| RMS reverse voltage                                                                         | $V_{R(RMS)}$                    | 14       | 21      | 28      | V    |
| Average rectified output current                                                            | $I_O$                           | 1        |         |         | A    |
| Non-repetitive Peak Forward Surge Current<br>@t=8.3ms                                       | $I_{FSM}$                       | 9        |         |         | A    |
| Repetitive peak forward current                                                             | $I_{FRM}$                       | 1.5      |         |         | A    |
| Power dissipation                                                                           | $P_d$                           | 250      |         |         | mW   |
| Thermal resistance junction to ambient                                                      | $R_{\theta JA}$                 | 400      |         |         | °C/W |
| Junction temperature                                                                        | $T_J$                           | 125      |         |         | °C   |
| Storage temperature                                                                         | $T_{STG}$                       | -55~+150 |         |         | °C   |

#### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter                       | Symbol     | Test conditions                                                            | Min            | Max   | Unit |
|---------------------------------|------------|----------------------------------------------------------------------------|----------------|-------|------|
| Reverse breakdown voltage       | $V_{(BR)}$ | $I_R = 1mA$<br>B5817WS<br>B5818WS<br>B5819WS                               | 20<br>30<br>40 |       | V    |
| Reverse voltage leakage current | $I_R$      | $V_R = 20V$<br>$V_R = 30V$<br>$V_R = 40V$<br>B5817WS<br>B5818WS<br>B5819WS |                | 1     | mA   |
| Forward voltage                 | $V_F$      | B5817WS $I_F = 1A$                                                         |                | 0.45  | V    |
|                                 |            | B5817WS $I_F = 3A$                                                         |                | 0.75  | V    |
|                                 |            | B5818WS $I_F = 1A$                                                         |                | 0.55  | V    |
|                                 |            | B5818WS $I_F = 3A$                                                         |                | 0.875 | V    |
|                                 |            | B5819WS $I_F = 1A$                                                         |                | 0.6   | V    |
|                                 |            | B5819WS $I_F = 3A$                                                         |                | 0.9   | V    |
| Diode capacitance               | $C_D$      | $V_R = 4V, f = 1MHz$                                                       |                | 120   | pF   |

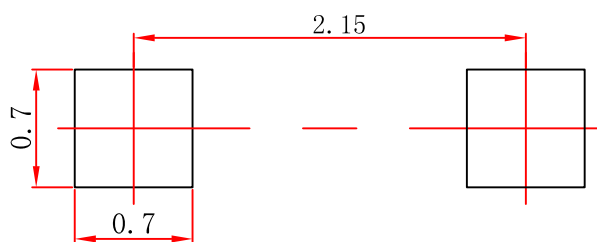


## SOD-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      |                           | 1.000 |                      | 0.039 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 0.900 | 0.031                | 0.035 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.550                     | 2.750 | 0.100                | 0.108 |
| L      | 0.475 REF.                |       | 0.019 REF.           |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

## SOD-323 Suggested Pad Layout



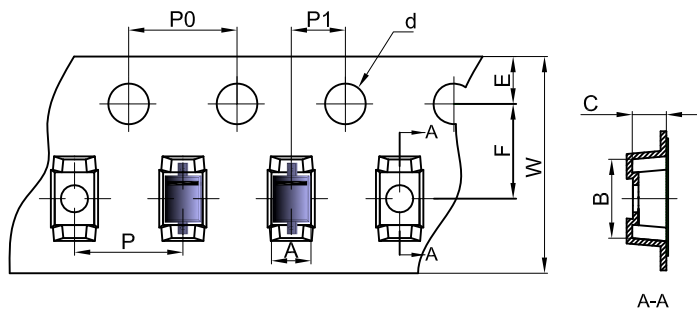
### Note:

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

### NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

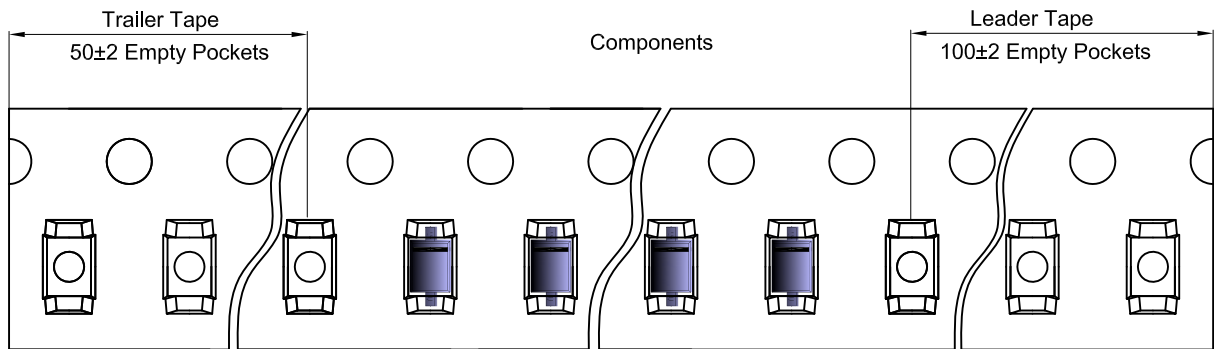
SOD-323 Embossed Carrier Tape



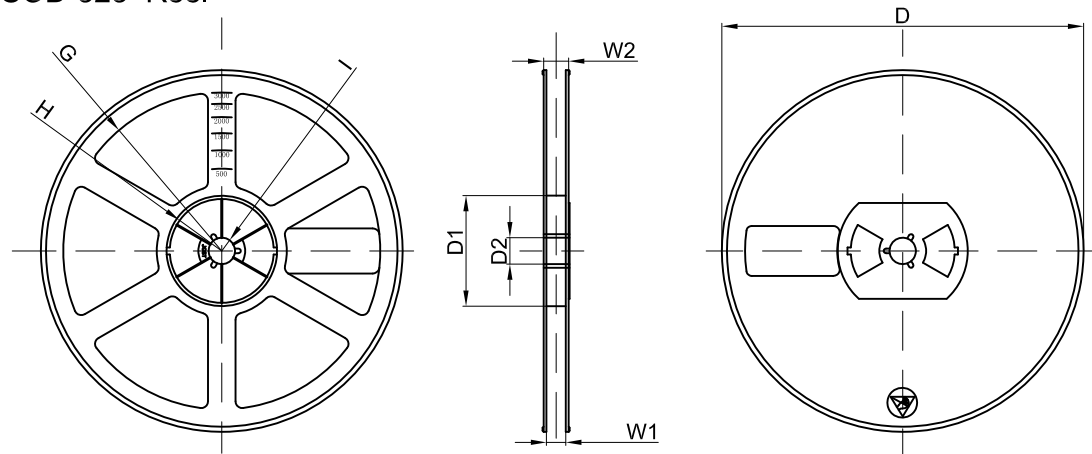
**Packaging Description:**  
SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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    |
| SOD-323                      | 1.48 | 3.3 | 1.25 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOD-323 Tape Leader and Trailer



SOD-323 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     |          |