

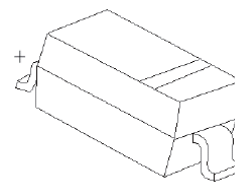
## SOD-323 Plastic-Encapsulate Diodes

SCHOTTKY BARRIER DIODE

SOD-323

### Features:

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



### MARKING:

B5817WS: SJ  
B5818WS: SK  
B5819WS: SL/ S4

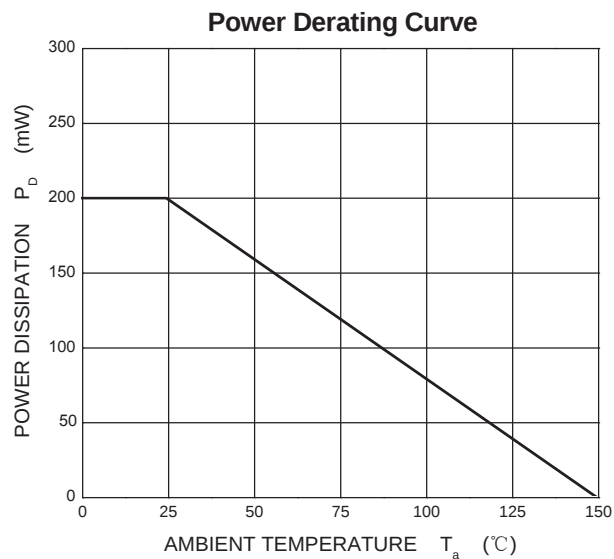
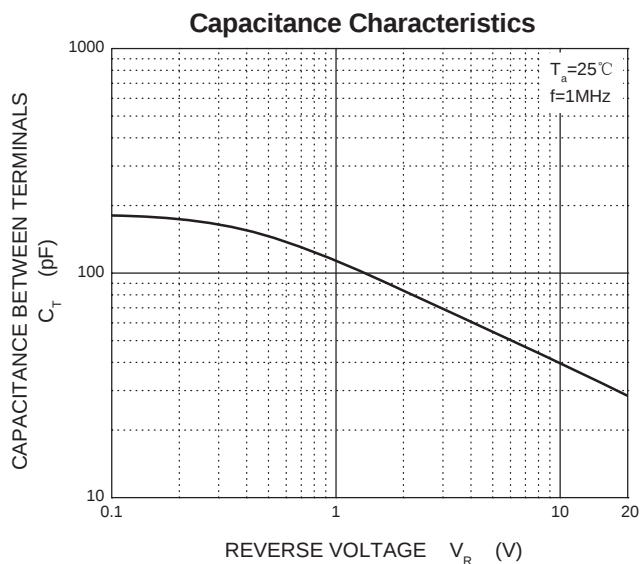
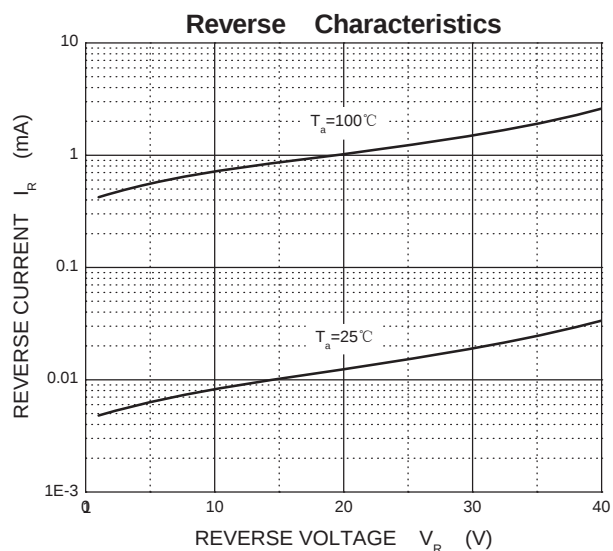
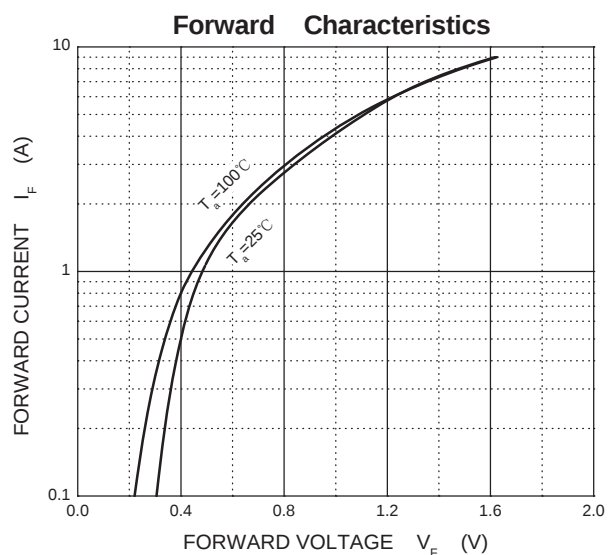
### Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

| 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    |
| Peak Forward Surge Current @t=8.3ms                                                         | $I_{FSM}$                       | 25       |         |         | A    |
| Repetitive Peak Forward Current                                                             | $I_{FRM}$                       | 1.5      |         |         | A    |
| Power Dissipation                                                                           | $P_d$                           | 200      |         |         | mW   |
| Thermal Resistance Junction to Ambient                                                      | $R_{SJA}$                       | 625      |         |         | °C/W |
| 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    |
|                                 |            | $I_F = 3A$                                                                 |                | 0.75  | V    |
|                                 |            | B5818WS $I_F = 1A$                                                         |                | 0.55  | V    |
|                                 |            | $I_F = 3A$                                                                 |                | 0.875 | V    |
|                                 |            | B5819WS $I_F = 1A$                                                         |                | 0.6   | V    |
|                                 |            | $I_F = 3A$                                                                 |                | 0.9   | V    |
| Diode capacitance               | $C_D$      | $V_R = 4V, f = 1MHz$                                                       |                | 120   | pF   |

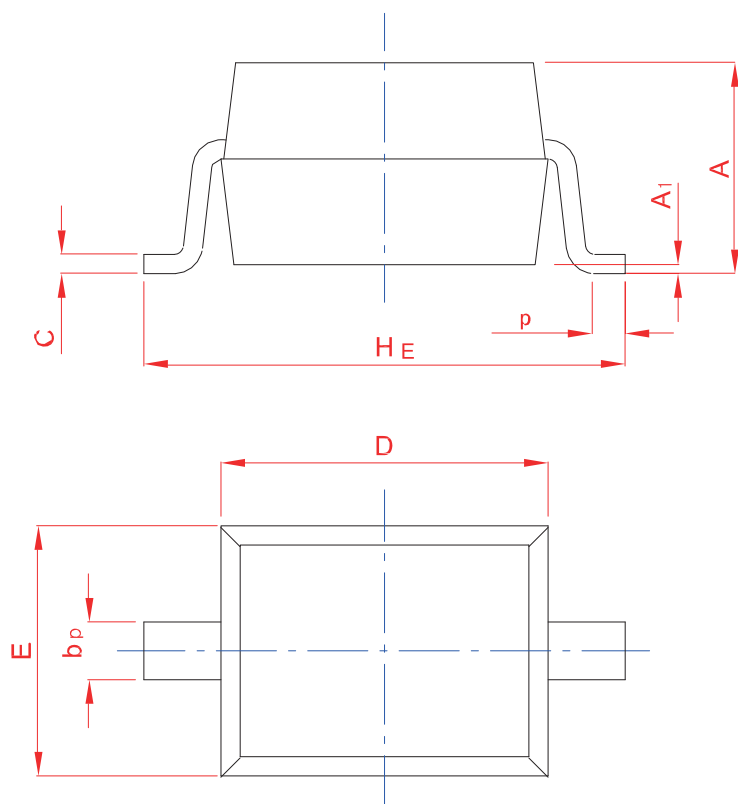
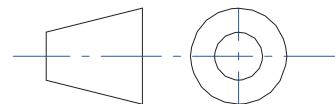
## Typical Characteristics



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



| UNIT | A            | b <sub>p</sub> | C            | D            | E            | H <sub>E</sub> | A <sub>1</sub> | L <sub>p</sub> |
|------|--------------|----------------|--------------|--------------|--------------|----------------|----------------|----------------|
| mm   | 1.20<br>0.90 | 0.40<br>0.25   | 0.15<br>0.10 | 1.80<br>1.60 | 1.35<br>1.15 | 2.80<br>2.30   | 0.10<br>0.01   | 0.50<br>0.20   |