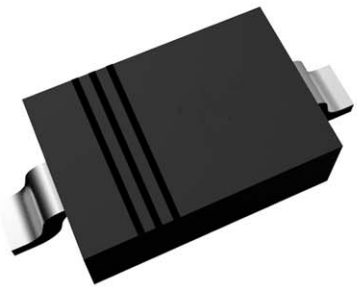
# B5817WS--B5819WS

## • FEATURES

Extremely low $V_F$.
Low stored change,majority carrier conduction.
Low power loss/high efficient



SOD-323

## • APPLICATIONS

For Use In Low Voltage, High Frequency Inverters.
Free Wheeling, And Polarity Protection Applications.

## • ORDERING INFORMATION

| Type No. | Marking | Package Code |
|---|---|---|
| B5817WS | SJ | SOD-323 |
| B5818WS | SK | SOD-323 |
| B5819WS | SL | SOD-323 |

## • MAXIMUM RATING @ Ta=25℃ unless otherwise specified

| 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 Reverse 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@=8.3ms | $I_{FSM}$ | 20 | | | A |
| Power Dissipation | $P_d$ | 250 | | | mW |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 500 | | | ℃/W |
| Storage temperature | $T_{STG}$ | -65~+150 | | | ℃ |

## ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

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

## TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Fig. 1 - Forward Current Derating Curve

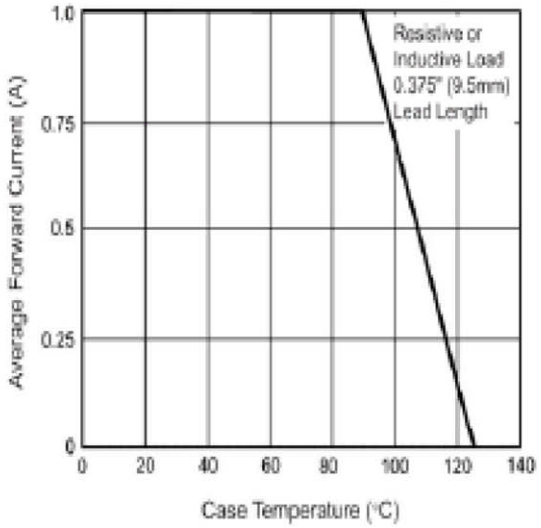



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

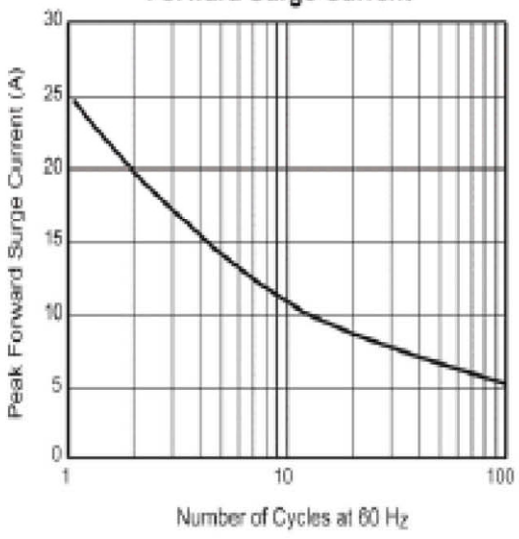


Fig. 3 - Typical Instantaneous Forward Characteristics

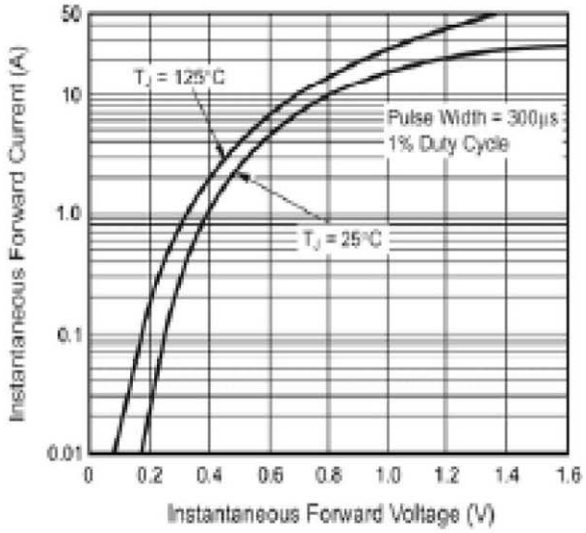



Fig. 4 - Typical Reverse Characteristics

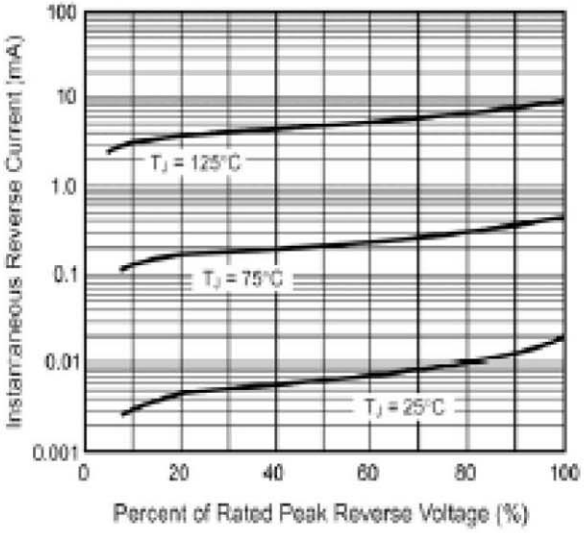



Fig. 5 - Typical Junction Capacitance

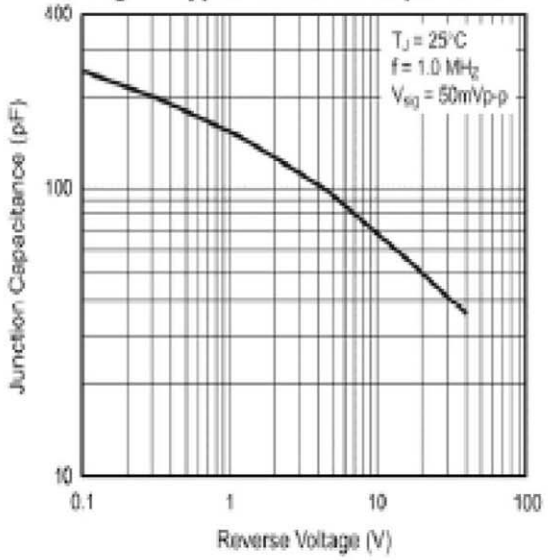
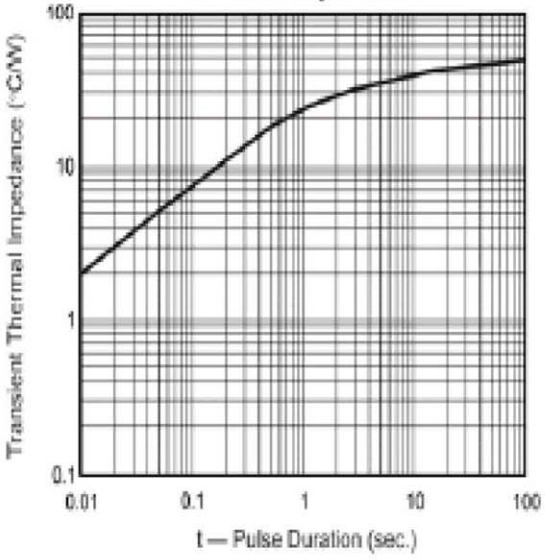
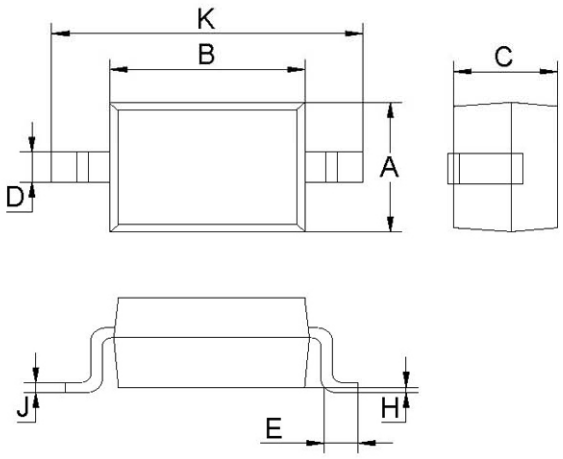



Fig. 6 - Typical Transient Thermal Impedance



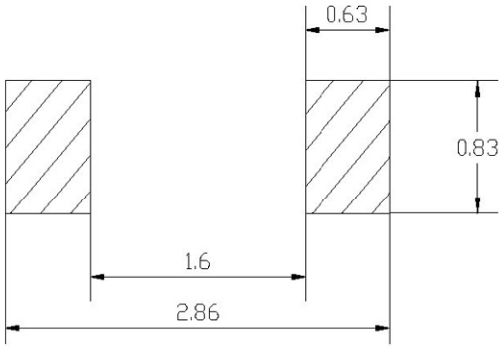
## PACKAGE OUTLINE

Plastic surface mounted package




| SOD-323 | | |
|---|---|---|
| Dim | Min | Max |
| A | 1.275 | 1.325 |
| B | 1.675 | 1.725 |
| C | 0.9 Typical | |
| D | 0.25 | 0.35 |
| E | 0.27 | 0.37 |
| H | 0.02 | 0.1 |
| J | 0.1 Typical | |
| K | 2.6 | 2.7 |
| All Dimensions in mm | | |

## SOLDERING FOOTPRINT




Unit : mm

## PACKAGE INFORMATION

| Device | Package | Shipping |
|---|---|---|
| B5817WS-B5819WS | SOD-323 | 3000/Tape&Reel |