

# SMD General Purpose Bridge Rectifier Diode



SMD Diodes Specialist

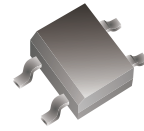
## B05S-HF Thru B10S-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 0.8 A

RoHS Device

Halogen Free

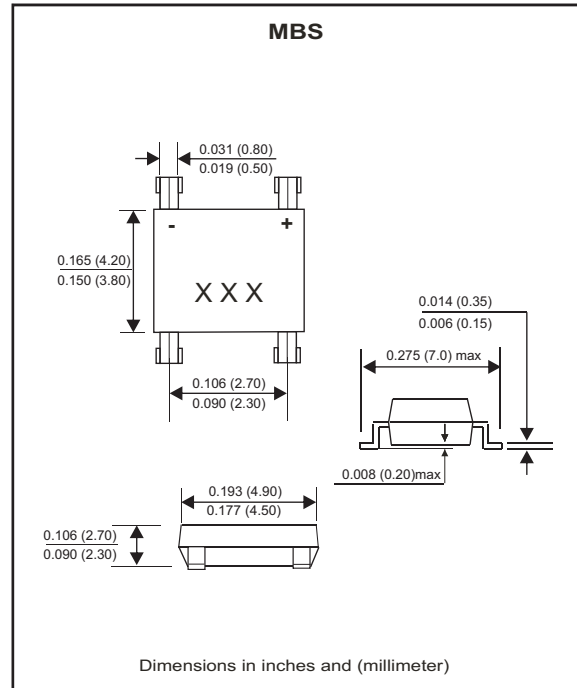


### Features

- Rating to 1000V PRV.
- Ideal for printed circuit board.
- Reliable low cost construction utilizing molded plastic technique results in inexpensive product.
- Pb free product.

### Mechanical data

- Polarity: Symbol molded on body.
- Weight: 0.0044 ounces, 0.125grams.
- Mounting position: Any.



### Maximum Rating And Electrical Characteristics

Rating at  $T_A=25^\circ\text{C}$ , unless otherwise noted.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Parameter  | Symbol          | B05S-HF     | B1S-HF | B2S-HF | B4S-HF | B6S-HF | B8S-HF | B10S-HF | Unit               |
|--|-----------------|-------------|--------|--------|--------|--------|--------|---------|--------------------|
|  | Marking         | B05S        | B1S    | B2S    | B4S    | B6S    | B8S    | B10S    |                    |
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$       | 50          | 100    | 200    | 400    | 600    | 800    | 1000    | V                  |
| Maximum RMS Voltage  | $V_{RMS}$       | 35          | 70     | 140    | 280    | 420    | 560    | 700     | V                  |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50          | 100    | 200    | 400    | 600    | 800    | 1000    | V                  |
| Maximum Average Forward Rectified Current (Note 1)<br>@ $T_A=40^\circ\text{C}$                                   | $I_{(AV)}$      | 0.8         |        |        |        |        |        |         | A                  |
| Peak Forward Surge Current, 8.3ms single half sine-wave, superimposed on rated load (JEDEC Method)               | $I_{FSM}$       | 30          |        |        |        |        |        |         | A                  |
| Maximum Forward Voltage at 0.8A DC   | $V_F$           | 1.1         |        |        |        |        |        |         | V                  |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>@ $T_J=25^\circ\text{C}$<br>@ $T_J=125^\circ\text{C}$ | $I_R$           | 5.0<br>500  |        |        |        |        |        |         | $\mu\text{A}$      |
| Typical Junction Capacitance per element (Note 2)  | $C_J$           | 15          |        |        |        |        |        |         | pF                 |
| Typical Thermal Resistance (Note 3)  | $R_{\theta JC}$ | 75          |        |        |        |        |        |         | $^\circ\text{C/W}$ |
| Operating Temperature Range  | $T_J$           | -55 to +150 |        |        |        |        |        |         | $^\circ\text{C}$   |
| Storage Temperature Range  | $T_{STG}$       | -55 to +150 |        |        |        |        |        |         | $^\circ\text{C}$   |

Notes: 1. Mounted on P.C. Board.  
 2. Measured at 1MHz and applied reverse voltage of 4V DC.  
 3. Thermal resistance: Junction to case.

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## RATING AND CHARACTERISTIC CURVES (B05S-HF Thru. B10S-HF)

Fig.1-Forward Current Derating Curve

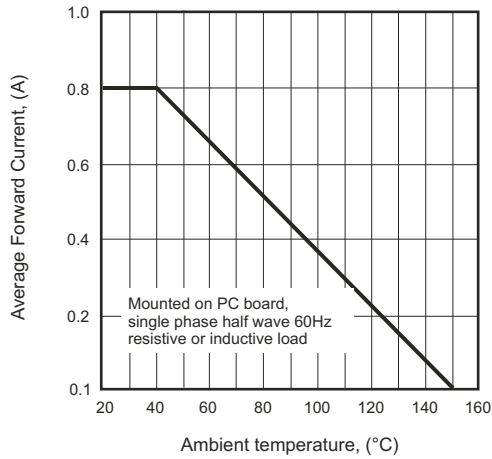


Fig.2-Maximum Non-Repetitive Surge Current

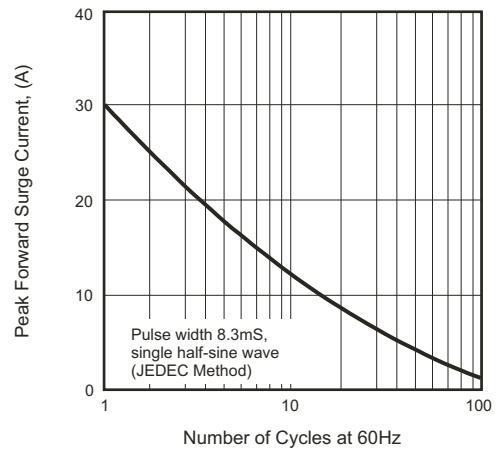


Fig.3-Typical Reverse Characteristics

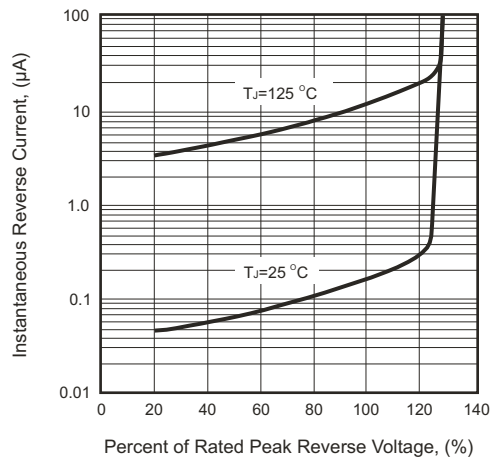


Fig.4-Typical Forward Characteristics

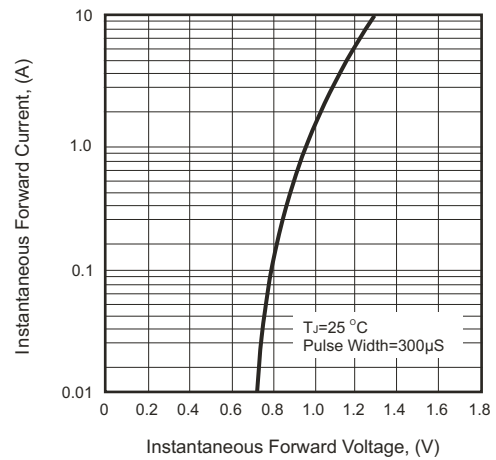
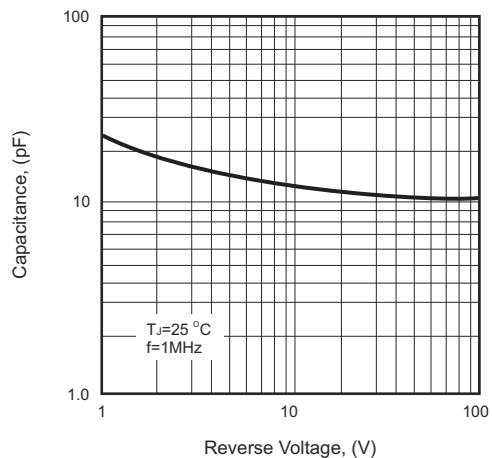
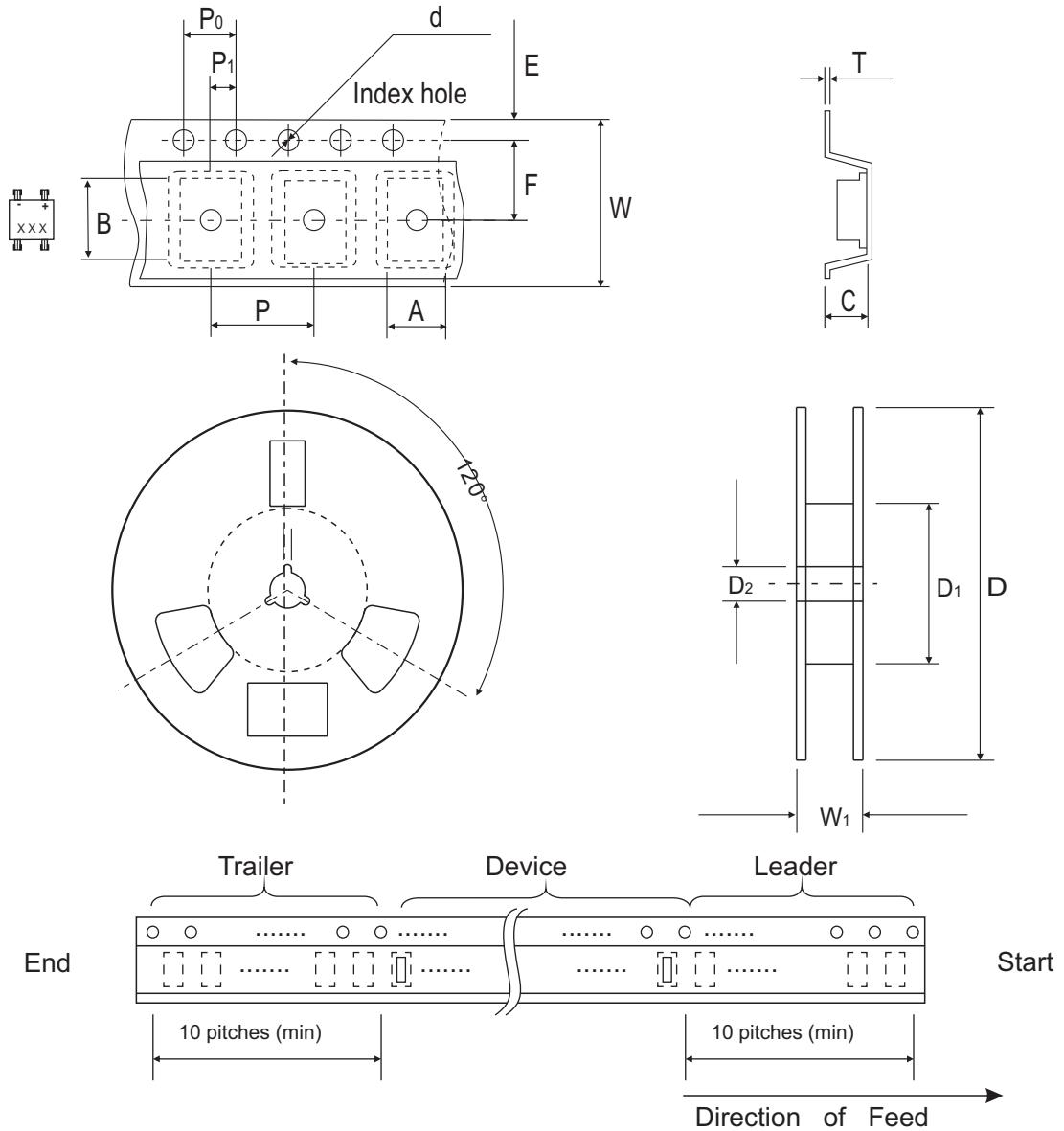


Fig.5-Typical Junction Capacitance



## Reel Taping Specification

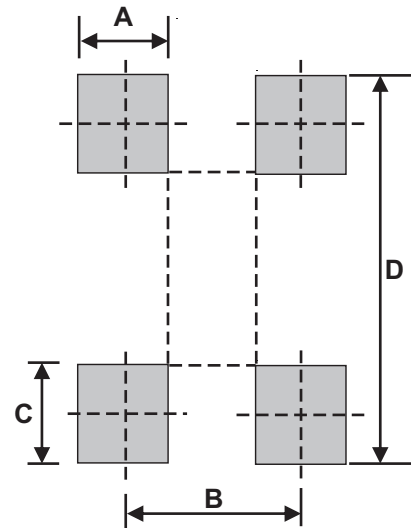


| MBS | SYMBOL | A             | B             | C             | d             | D   | D1         | D2            |
|-----|--------|---------------|---------------|---------------|---------------|-----|------------|---------------|
|     | (mm)   | 4.90 ± 0.10   | 7.24 ± 0.10   | 3.33 ± 0.10   | 1.55 ± 0.05   | 330 | 50.0 MIN.  | 13.0 ± 0.20   |
|     | (inch) | 0.193 ± 0.004 | 0.285 ± 0.004 | 0.131 ± 0.004 | 0.061 ± 0.002 | 13  | 1.969 MIN. | 0.512 ± 0.008 |

| MBS | SYMBOL | E             | F             | P             | P0            | P1            | T     | W             | W1          |
|-----|--------|---------------|---------------|---------------|---------------|---------------|-------|---------------|-------------|
|     | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 8.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.30  | 12.00 ± 0.30  | 12.00~14.40 |
|     | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.012 | 0.472 ± 0.012 | 0.472~0.657 |

## Suggested PAD Layout

| SIZE | MBS     |          |
|------|---------|----------|
|      | (mm)    | (inch)   |
| A    | 0.82MIN | 0.032MIN |
| B    | 2.55REF | 0.100REF |
| C    | 0.92MIN | 0.036MIN |
| D    | 7.00MAX | 0.276MAX |



## Standard Package

| Case Type | Qty per Reel | Reel Size |
|-----------|--------------|-----------|
|           | (Pcs)        | (inch)    |
| MBS       | 3000         | 13        |