

SMD General Purpose Bridge Rectifier Diode



SMD Diodes Specialist

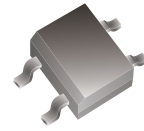
B05S-HF Thru B10S-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 0.8 A

RoHS Device

Halogen Free

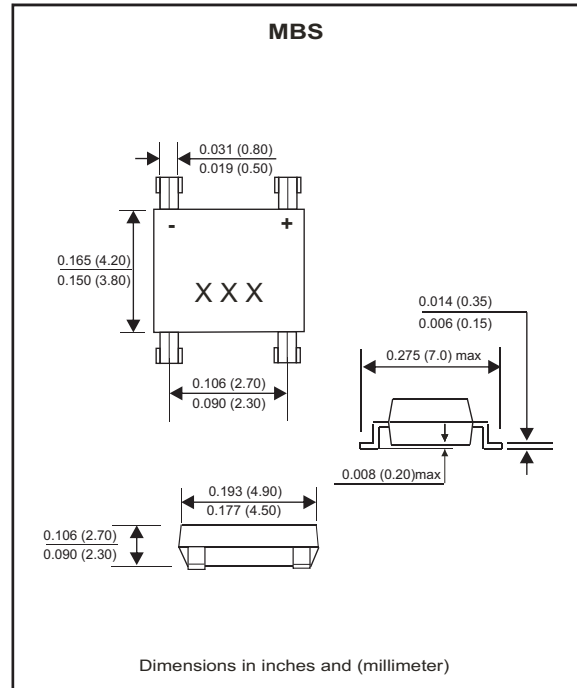


Features

- 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) @ $T_A=40^{\circ}\text{C}$ | $I_{(AV)}$ | 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 @ $T_J=25^{\circ}\text{C}$ @ $T_J=125^{\circ}\text{C}$ | I_R | 5.0 500 | | | | | | | μA |
| 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

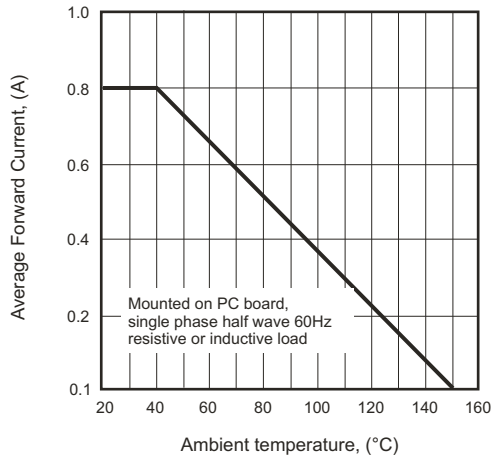


Fig.2-Maximum Non-Repetitive Surge Current

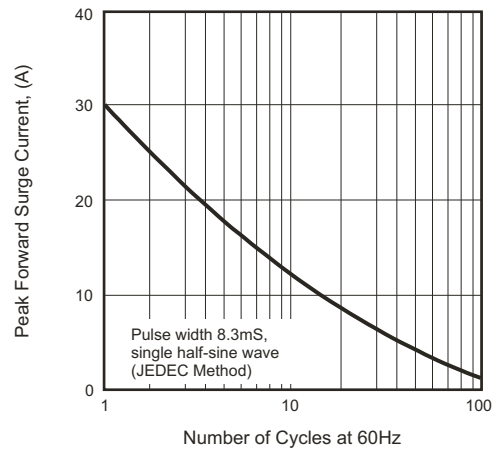


Fig.3-Typical Reverse Characteristics

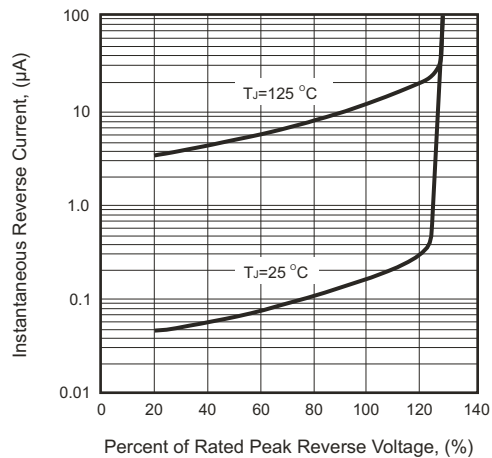


Fig.4-Typical Forward Characteristics

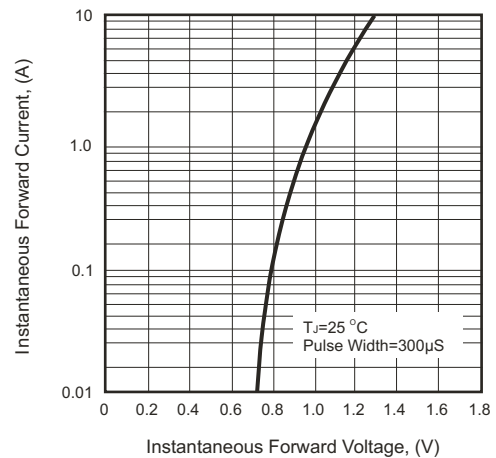
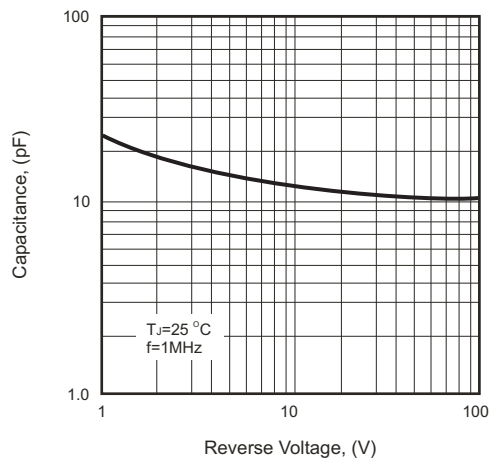
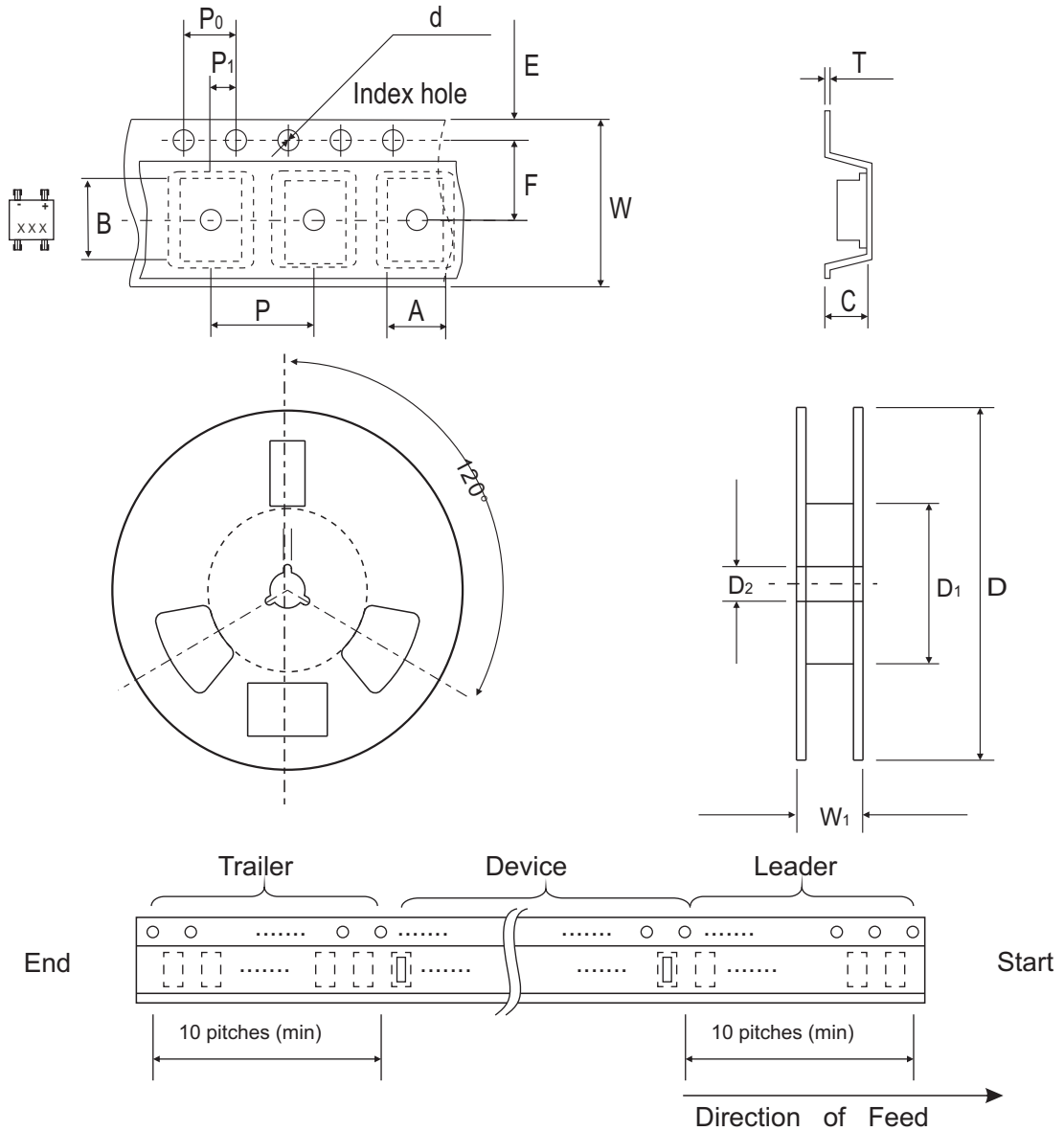


Fig.5-Typical Junction Capacitance



Reel Taping Specification

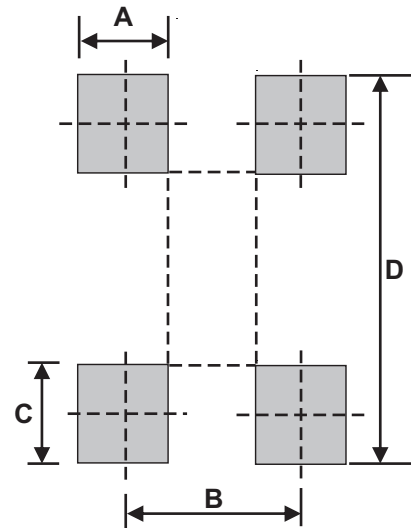


| MBS | SYMBOL | A | B | C | d | D | D1 | D2 |
|-----|--------|---------------|---------------|---------------|---------------|-----|------------|---------------|
| | (mm) | 4.90 ± 0.10 | 7.24 ± 0.10 | 3.33 ± 0.10 | 1.55 ± 0.05 | 330 | 50.0 MIN. | 13.0 ± 0.20 |
| | (inch) | 0.193 ± 0.004 | 0.285 ± 0.004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