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|---|----------------|
|  | <b>E502650</b> |
|---|----------------|

**Features**

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Surface Mount Package
- Low Profile Package

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance(Note 3): 15°C/W Junction to Lead
- Typical Thermal Resistance(Note 3): 40°C/W Junction to Ambient

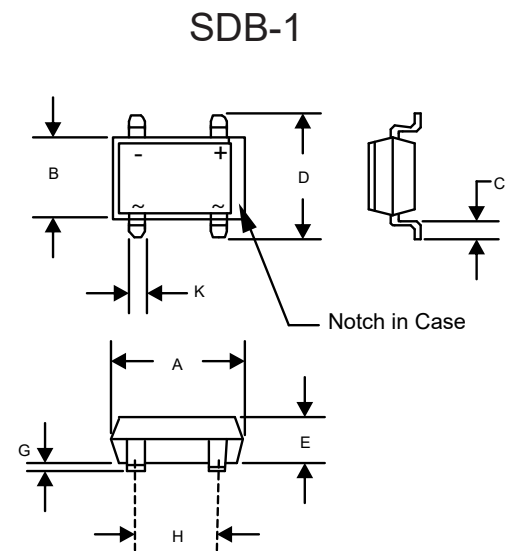
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| SDB101          | SDB101         | 50V                                    | 35V                 | 50V                         |
| SDB102          | SDB102         | 100V                                   | 70V                 | 100V                        |
| SDB103          | SDB103         | 200V                                   | 140V                | 200V                        |
| SDB104          | SDB104         | 400V                                   | 280V                | 400V                        |
| SDB105          | SDB105         | 600V                                   | 420V                | 600V                        |
| SDB106          | SDB106         | 800V                                   | 560V                | 800V                        |
| SDB107          | SDB107         | 1000V                                  | 700V                | 1000V                       |

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|   |             |                     |   |
|---|-------------|---------------------|---|
| Average Forward Current                                 | $I_{F(AV)}$ | 1.0A                | $T_A = 40^\circ\text{C}$                              |
| Peak Forward Surge Current                              | $I_{FSM}$   | 30A                 | 8.3ms, Half Sine                                      |
| Current Squared Time                                    | $I^2t$      | 3.7A <sup>2</sup> S | 1ms ≤ t ≤ 8.3ms                                       |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.1V                | $I_{FM} = 1.0A$<br>$T_J = 25^\circ\text{C}$           |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $I_R$       | 10μA<br>0.5mA       | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ |
| Typical Junction Capacitance                            | $C_J$       | 25pF                | Measured at 1.0MHz, $V_R = 4.0V$                      |

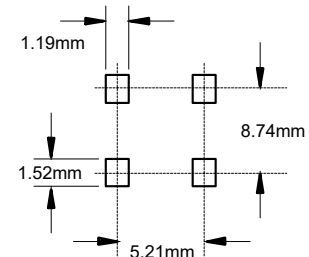
- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
 2. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7a.  
 3. Units Mounted on P.C.B with 0.51x0.51"(13x13mm) Copper Pads

# 1.0 Amp Single Phase Bridge Rectifier 50 to 1000 Volts



| DIM | DIMENSIONS |       |       |       | NOTE |
|-----|------------|-------|-------|-------|------|
|     | INCHES     |       | MM    |       |      |
| A   | 0.316      | 0.335 | 8.05  | 8.51  |      |
| B   | 0.245      | 0.255 | 6.20  | 6.50  |      |
| C   | 0.040      | 0.060 | 1.02  | 1.50  |      |
| D   | 0.360      | 0.410 | 9.40  | 10.40 |      |
| E   | 0.102      | 0.130 | 2.60  | 3.30  |      |
| G   | 0.003      | 0.013 | 0.076 | 0.33  |      |
| H   | 0.195      | 0.205 | 5.00  | 5.20  |      |
| K   | 0.038      | 0.047 | 1.00  | 1.20  |      |

**Suggested Solder Pad Layout**



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

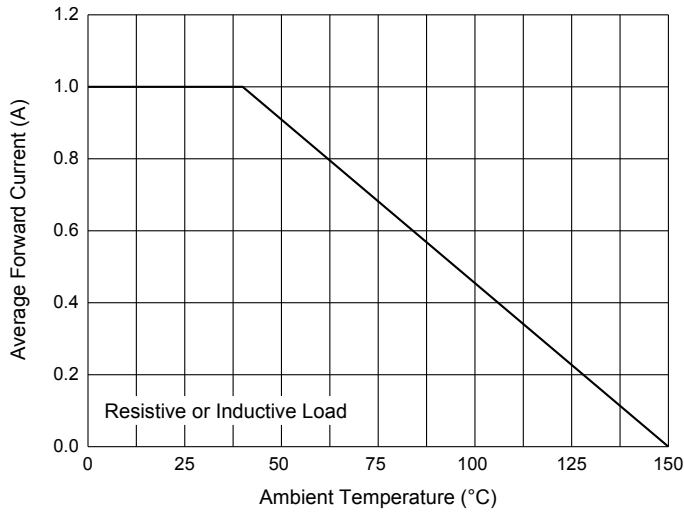


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

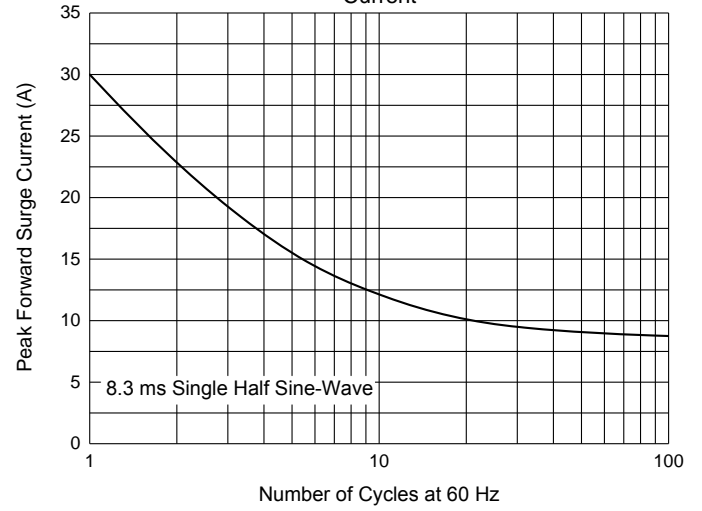


Fig. 3 - Typical Instantaneous Forward Characteristics

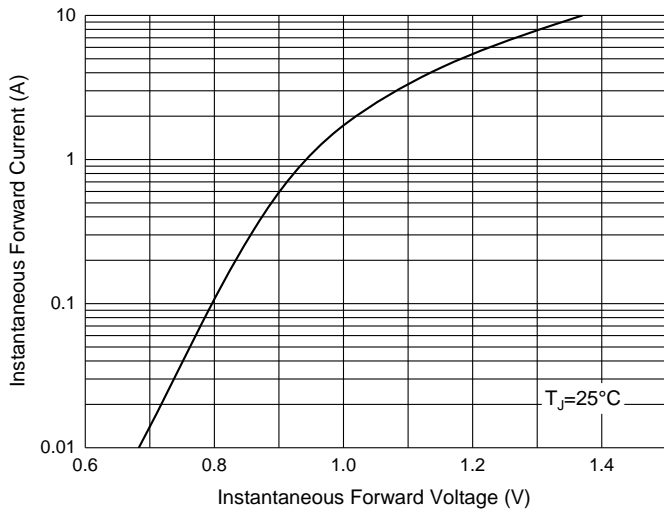
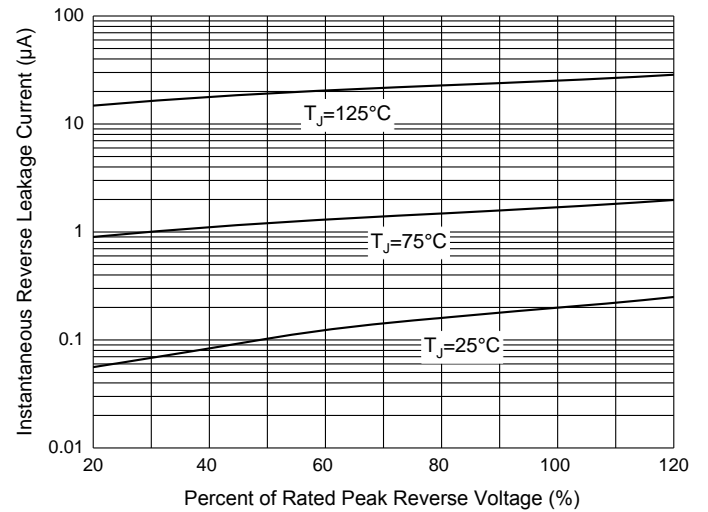


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device         | Packing                |
|----------------|------------------------|
| Part Number-TP | Tape&Reel:1.5Kpcs/Reel |
| Part Number-BP | Bulk:20Kpcs/Ctn        |

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