



Micro Commercial Components



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SDB101 THRU SDB107

Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Surface Mount and Low Profile Package
- UL Recognized File # E165989
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

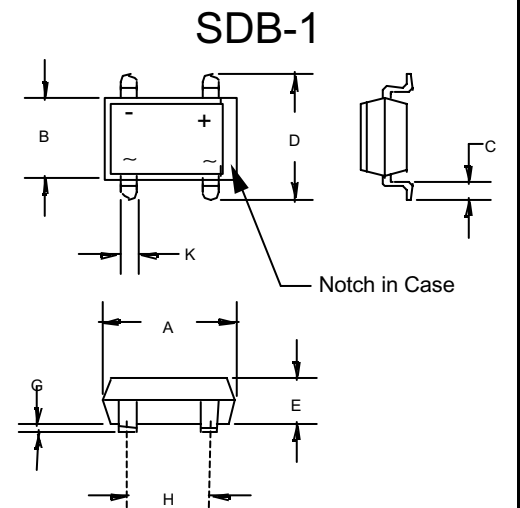
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| SDB101 | SDB101 | 50V | 35V | 50V |
| SDB102 | 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 | $I_{F(AV)}$ | 1.0 A | $T_A = 40^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 50A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.1V | $I_{FM} = 1.0\text{A}; T_A = 25^\circ\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 10 μA 0.5mA | $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 25pF | Measured at 1.0MHz, $V_R=4.0\text{V}$ |
| Typical thermal Resistance Per Leg (Note 2) | $R_{\theta JA}$ $R_{\theta JL}$ | 40°C/W 15°C/W | |

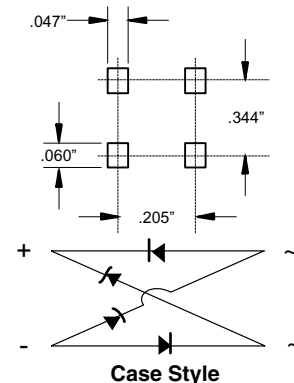
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7
 2. Units mounted on P.C.B with 0.51x0.51"(13x13mm) copper pads

1.0 Amp Single Phase Bridge Rectifier 50 to 1000 Volts



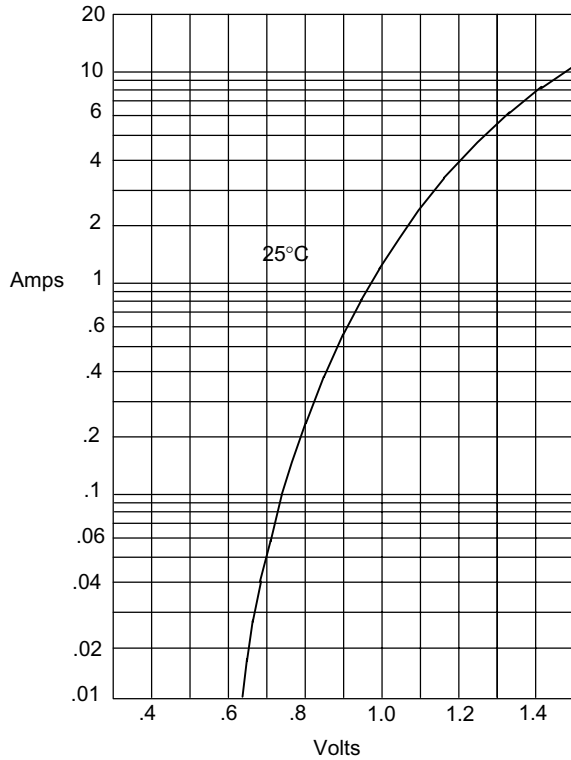
| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .316 | .335 | 8.05 | 8.51 | |
| B | .245 | .255 | 6.20 | 6.50 | |
| C | .040 | .060 | 1.02 | 1.50 | |
| D | .360 | .410 | 9.40 | 10.4 | |
| E | .102 | .130 | 2.60 | 3.30 | |
| G | .003 | .013 | .076 | .330 | |
| H | .195 | .205 | 5.00 | 5.20 | |
| K | .038 | .047 | 1.00 | 1.20 | |

Suggested Solder Pad Layout



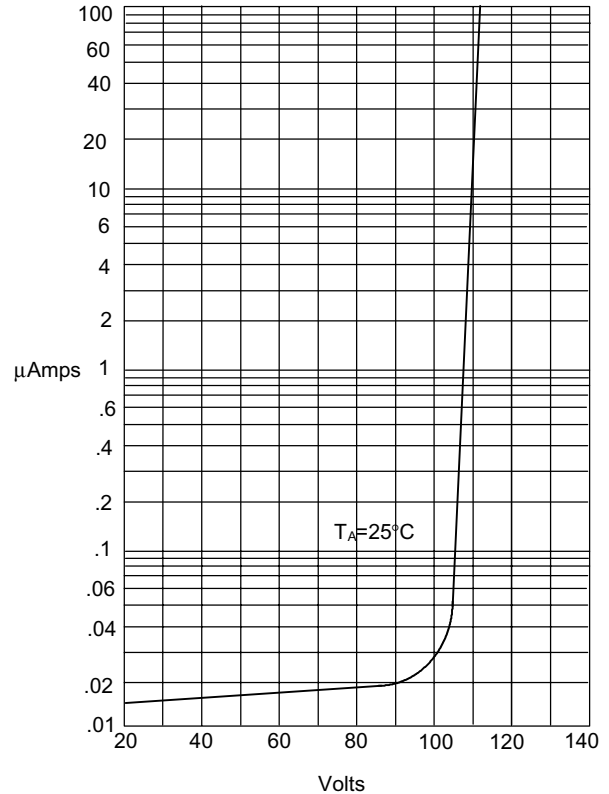
SDB101 thru SDB107

Figure 1
Typical Forward Characteristics



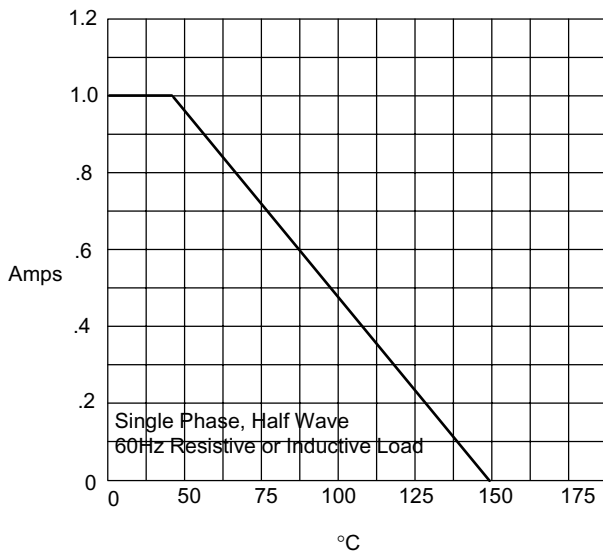
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Typical Reverse Characteristics



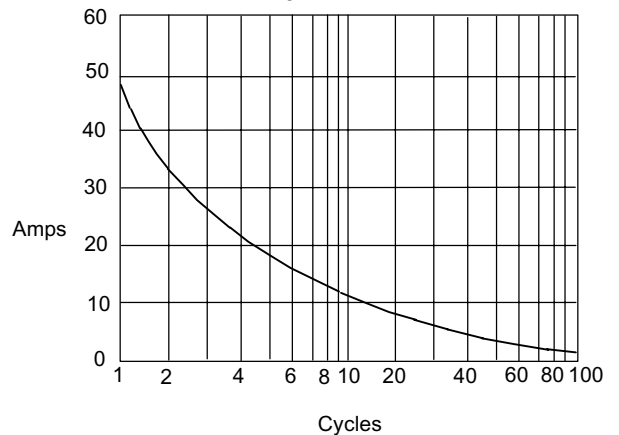
Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

Figure 3
Forward Derating Curve



Average Forward Rectified Current - Amperes versus
Ambient Temperature - °C

Figure 4
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles



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Ordering Information

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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