



Micro Commercial Components  
 21201 Itasca Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# HDBS101G THRU HDBS107G

## Features

- High Forward Surge Capability
- Ideal for printed circuit boards
- High Temperature Soldering: 250°C for 10 seconds
- Reliable low cost construction utilizing molded plastic technique

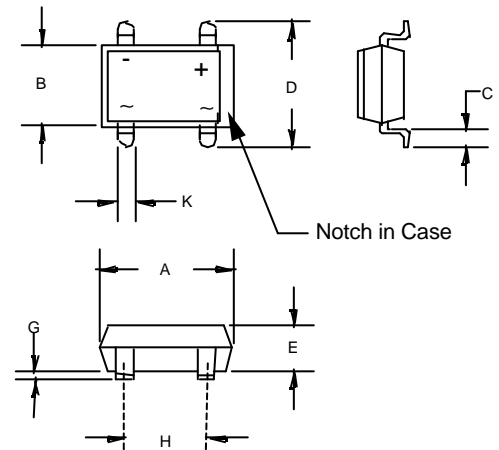
## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- For Capacitive Load, Derate Current by 20%

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|--|---------------------|-----------------------------|
| HDBS101G        | 50V                                    | 35V                 | 50V                         |
| HDBS102G        | 100V                                   | 70V                 | 100V                        |
| HDBS103G        | 200V                                   | 140V                | 200V                        |
| HDBS104G        | 400V                                   | 280V                | 400V                        |
| HDBS105G        | 600V                                   | 420V                | 600V                        |
| HDBS106G        | 800V                                   | 560V                | 800V                        |
| HDBS107G        | 1000V                                  | 700V                | 1000V                       |

**1.0 AMP. Glass Passivated Bridge High Efficient Rectifier 50 to 1000 Volts**

### SDB-1



## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |  |   |
|---|-------------|--|---|
| Average Forward Current   | $I_{F(AV)}$ | 1.0 A                                  | $T_C = 40^\circ\text{C}$                                      |
| Peak Forward Surge Current  | $I_{FSM}$   | 50A                                    | 8.3ms, half sine<br>$T_J=150^\circ\text{C}$                   |
| Maximum Instantaneous Forward Voltage<br>HDBS101G-103G<br>HDBS104G<br>HDBS105G-107G | $V_F$       | 1.0V<br>1.3V<br>1.7V                   | $I_{FM} = 1.0\text{A};$<br>$T_C = 25^\circ\text{C}$           |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                             | $I_R$       | 5.0 $\mu\text{A}$<br>500 $\mu\text{A}$ | $T_C = 25^\circ\text{C}$<br>$T_C = 125^\circ\text{C}$         |
| Maximum Reverse Recovery Time<br>HDBS101G-104G<br>HDBS105G-107G                     | $T_{rr}$    | 50ns<br>75ns                           | $I_F=0.5\text{A}, I_R=1.0\text{A},$<br>$I_{r_f}=0.25\text{A}$ |

| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .320   | .335 | 8.13  | 8.50 |      |
| B   | .245   | .255 | 6.20  | 6.50 |      |
| C   | .040   | .060 | 1.02  | 1.52 |      |
| D   | .386   | .404 | 9.80  | 10.3 |      |
| E   | .120   | .130 | 3.05  | 3.30 |      |
| G   | .003   | .013 | 0.076 | 0.33 |      |
| H   | .195   | .205 | 5.00  | 5.20 |      |
| K   | .040   | .047 | 1.02  | 1.20 | TYP  |

### Suggested Solder Pad Layout

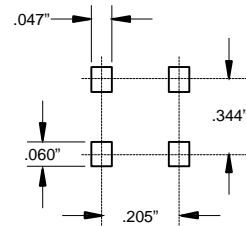


FIG. 1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

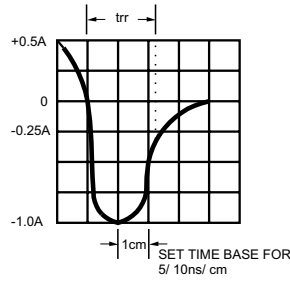
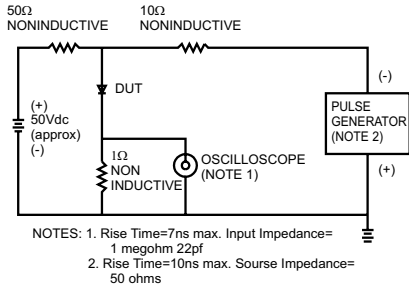


FIG. 2- MAXIMUM FORWARD CURRENT DERATING CURVE

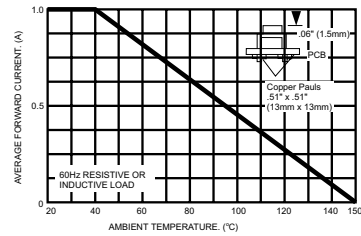


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

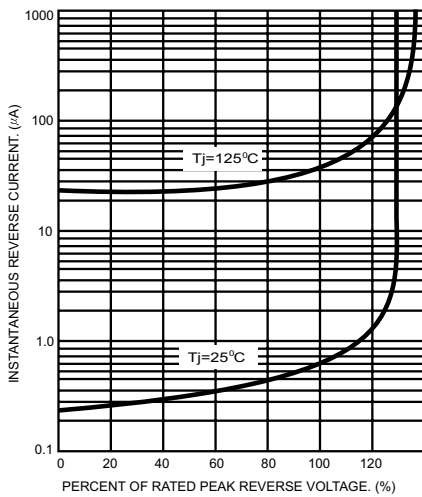


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

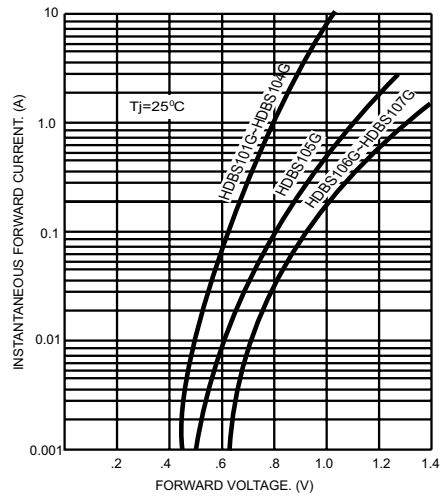


FIG. 5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

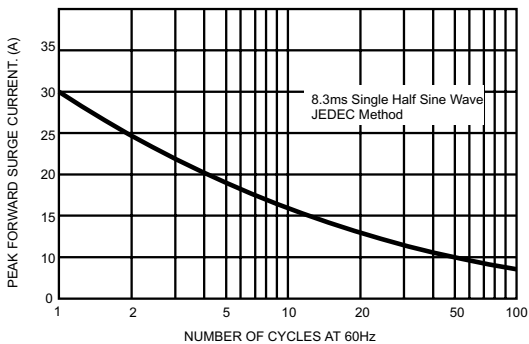


FIG. 6- TYPICAL JUNCTION CAPACITANCE

