DB151 THRU DB157

SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER
Reverse Voltage – 50 to 1000 Volts
Forward Current – 1.5 Ampere

Features
- High surge overload rating of 50 amperes peak
- Ideal for printed circuit board
- Low forward voltage drop
- Glass passivated chip junction

Mechanical data
- Case Molded plastic, DB
- Mounting position: Any

Maximum Ratings and Electrical Characteristics
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbols</th>
<th>DB151</th>
<th>DB152</th>
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<th>DB156</th>
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<th>Units</th>
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<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>V_RRM</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
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<tr>
<td>Maximum RMS voltage</td>
<td>V_RMS</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>V</td>
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<tr>
<td>Maximum DC blocking voltage</td>
<td>V_DC</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum average forward rectified current</td>
<td>I_AV</td>
<td>1.5</td>
<td></td>
<td></td>
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<td>A</td>
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<tr>
<td>Peak forward surge current 8.3 ms single half-</td>
<td>I_FSM</td>
<td>50</td>
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<td>A</td>
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sine-wave superimposed on rated load (JEDEC method)
| Maximum forward voltage at 1.5A DC and 25°C     | V_F     | 1.1   |       |       |       |       |       |       | V     |
| Maximum reverse current at rated DC blocking   | I_R     |       |       |       | 5     |       | 500   |       | µA    |
| voltage @T_A = 25°C                             |         |       |       |       |       |       |       |       |       |
| @T_A = 125°C                                    |         |       |       |       |       |       |       |       |       |
| Typical junction capacitance                    | C_J     | 25    |       |       |       |       |       |       | pF    |
| Typical thermal resistance 2)                   | Ruja    | 40    |       |       |       |       |       |       | °C/W  |
| Typical thermal resistance 2)                   | Rjul    | 15    |       |       |       |       |       |       | °C/W  |
| Operating and storage temperature range         | T_J,T_STG | -55 to +150 |       |       |       |       |       |       | °C    |

1) Measured at 1 MHz and applied reverse voltage of 4 VDC.
2) Thermal resistance from junction to ambient and junction to lead mounted on P.C.B. with 0.5 x 0.5" (13x13mm) copper pads.
RATINGS AND CHARACTERISTIC CURVES

**Fig. 1 - Derating Curve Output Rectified Current**

- 60 Hz Resistive or Inductive Load
- P.C.B mounted on 0.51 x 0.51" (13 x 13mm) Copper pads with 0.06" (1.5mm) lead length

**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**

- $T_J = 150^\circ C$
- Single Sine-Wave (JEDEC Method)

**Fig. 3 - Typical Forward Characteristics Per Leg**

- $T_J = 25^\circ C$
- Pulse width = 300μs
- 1% Duty Cycle

**Fig. 4 - Typical Reverse Leakage Characteristics Per Leg**

- $T_J = 125^\circ C$
- $T_J = 50^\circ C$

**Fig. 5 - Typical Junction Capacitance Per Leg**

- $T_J = 25^\circ C$
- $f = 1.0$ MHz
- $V_{sat} = 50mV$  p-p

**Fig. 6 - Typical Transient Thermal Impedance**

- Transient Thermal Impedance (C/W)

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Dated: 01/12/2005