DF005S THRU DF10S

SINGLE-PHASE GLASS PASSIVATED SILICON SURFACE MOUNT BRIDGE RECTIFIER

Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

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

Mechanical Data
• Case: Molded plastic, DB-S
• Epoxy: UL 94V-0 rate flame retardant
• Terminal: Leads solderable per MIL-STD-202, method 208 guaranteed
• 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>DF005S</th>
<th>DF01S</th>
<th>DF02S</th>
<th>DF04S</th>
<th>DF06S</th>
<th>DF08S</th>
<th>DF10S</th>
<th>Units</th>
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</thead>
<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 at ( T_a = 40 ) °C</td>
<td>( I_{AV} )</td>
<td>1 A</td>
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<tr>
<td>Peak Forward Surge Current 8.3 ms Single Half-sine -wave Superimposed on Rated Load (JEDEC Method)</td>
<td>( I_{FSM} )</td>
<td>50 A</td>
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<tr>
<td>Maximum Forward Voltage at 1 A DC</td>
<td>( V_F )</td>
<td>1.1 V</td>
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<tr>
<td>Maximum Reverse Current at Rated DC Blocking Voltage</td>
<td>( T_a = 25 ) °C</td>
<td>( I_R )</td>
<td>5 µA</td>
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<td></td>
<td>( T_a = 125 ) °C</td>
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<tr>
<td>Typical Junction Capacitance</td>
<td>( C_J )</td>
<td>25 pF</td>
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<tr>
<td>Typical Thermal Resistance</td>
<td>( R_{JUA} )</td>
<td>40 °C/W</td>
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<tr>
<td>Typical Thermal Resistance</td>
<td>( R_{JUL} )</td>
<td>15 °C/W</td>
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<tr>
<td>Operating and Storage Temperature Range</td>
<td>( T_{j, T_{stg}} )</td>
<td>-55 to +150 °C</td>
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1) Measured at 1 MHz and applied reverse voltage of 4 V DC.
2) Units mounted P.C.B. with 0.5 X 0.5" (13 X 13 mm) copper pads.
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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

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

- T_J = 150°C
- Single Sine-Wave (JEDEC Method)
- 1.0 Cycle

Fig. 3 - Typical Forward Characteristics Per Leg

- T_J = 25°C
- Pulse width = 300μs
- 1% Duty Cycle

Fig. 4 - Typical Reverse Leakage Characteristics Per Leg

- T_J = 125°C
- T_J = 25°C

Fig. 5 - Typical Junction Capacitance Per Leg

- T_J = 25°C
- f = 1.0MHz
- Vsig = 50mVp-p

Fig. 6 - Typical Transient Thermal Impedance

- T_J = 25°C
- t, Heating Time (sec.)

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