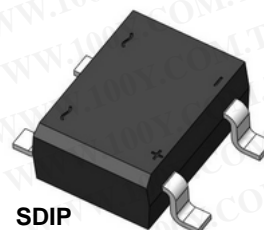


# DF005S - DF10S Bridge Rectifiers

## Features

- Surge overload rating: 50 amperes peak.
- Glass passivated junction.
- Low leakage.
- UL certified, UL #E111753 and E326243.



## Absolute Maximum Ratings \* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter  | Value       |     |     |     |     |     |      | Units            |
|-------------|--|-------------|-----|-----|-----|-----|-----|------|------------------|
|             |  | 005S        | 01S | 02S | 04S | 06S | 08S | 10S  |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                       | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $V_{RMS}$   | Maximum RMS Bridge Input Voltage   | 35          | 70  | 140 | 280 | 420 | 560 | 700  | V                |
| $V_R$       | DC Reverse Voltage (Rated $V_R$ )  | 50          | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>@ $T_A = 40^\circ\text{C}$          | 1.5         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half-Sine-Wave | 50          |     |     |     |     |     |      | A                |
| $T_{STG}$   | Storage Temperature Range  | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature   | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## Thermal Characteristics

| Symbol          | Parameter  | Value | Units              |
|-----------------|--|-------|--------------------|
| $P_D$           | Power Dissipation                                  | 3.1   | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient, * per leg | 40    | $^\circ\text{C/W}$ |

\* Device mounted on PCB with  $0.5 \times 0.5"$  ( $13 \times 13\text{mm}$ ).

## Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter   | Value      | Units                          |
|--------|---|------------|--------------------------------|
| $V_F$  | Forward Voltage, per element @ 1.0A   | 1.1        | V                              |
| $I_R$  | Reverse Current, per element @ rated $V_R$<br>$T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$ | 5.0<br>500 | $\mu\text{A}$<br>$\mu\text{A}$ |
|        | $I^2t$ Rating for Fusing $t < 8.35\text{ms}$  | 10         | $\text{A}^2\text{s}$           |
| $C_T$  | Total Capacitance, per leg $V_R = 4.0\text{V}$ , $f = 1.0\text{MHz}$                                | 25         | pF                             |

## Typical Performance Characteristics

Figure 1. Non-Repetitive Surge Current

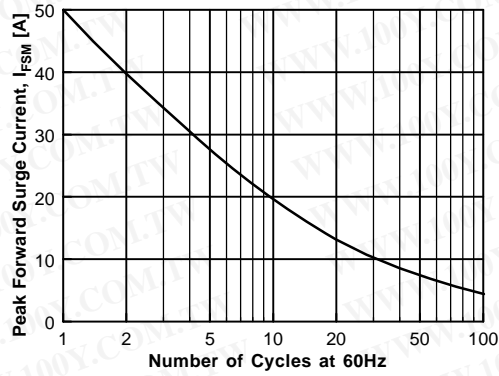


Figure 2. Forward Current Derating Curve

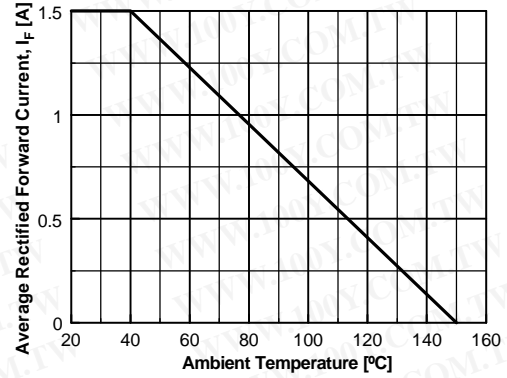


Figure 3. Forward Voltage Characteristics

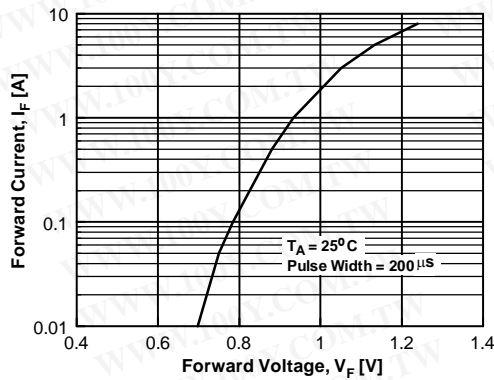
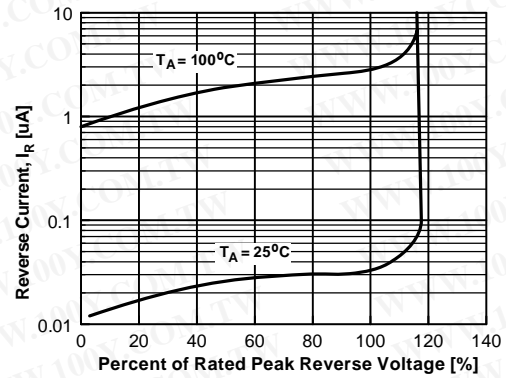


Figure 4. Reverse Current vs Reverse Voltage






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