

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristic                                                                                     | Symbol           | DF 005S | DF 01S | DF 02S | DF 04S | DF 06S | DF 08S | DF 10S | Unit |
|----------------------------------------------------------------------------------------------------|------------------|---------|--------|--------|--------|--------|--------|--------|------|
| Peak Repetitive Reverse Voltage                                                                    | V <sub>RMM</sub> | 50      | 100    | 200    | 400    | 600    | 800    | 1000   | V    |
| Working Peak Reverse Voltage                                                                       | V <sub>RWM</sub> |         |        |        |        |        |        |        |      |
| DC Blocking Voltage                                                                                | V <sub>R</sub>   |         |        |        |        |        |        |        |      |
| RMS Reverse Voltage                                                                                | V <sub>RMS</sub> | 35      | 70     | 140    | 280    | 420    | 560    | 700    | V    |
| Average Forward Rectified Current @ T <sub>A</sub> = +40°C                                         | I <sub>O</sub>   | 1.0     |        |        |        |        |        |        | A    |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub> | 50      |        |        |        |        |        |        | A    |

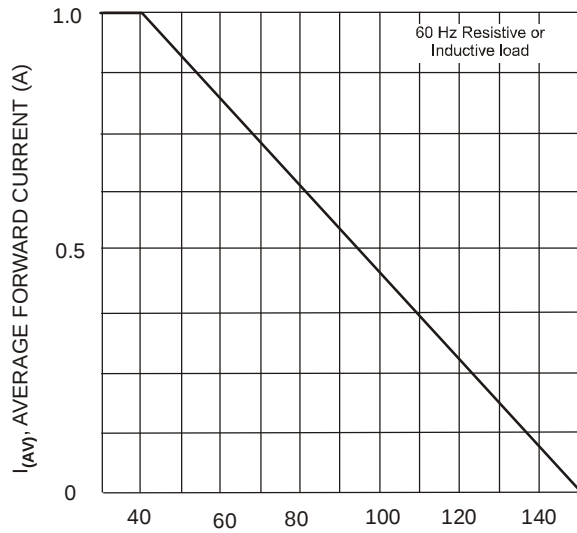
**Thermal Characteristics**

| Characteristic                                           | Symbol                            | DF 005S     | DF 01S | DF 02S | DF 04S | DF 06S | DF 08S | DF 10S | Unit |
|----------------------------------------------------------|-----------------------------------|-------------|--------|--------|--------|--------|--------|--------|------|
| Typical Thermal Resistance, Junction to Ambient (Note 6) | R <sub>θJA</sub>                  | 40          |        |        |        |        |        |        | °C/W |
| Operating and Storage Temperature Range                  | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 |        |        |        |        |        |        | °C   |

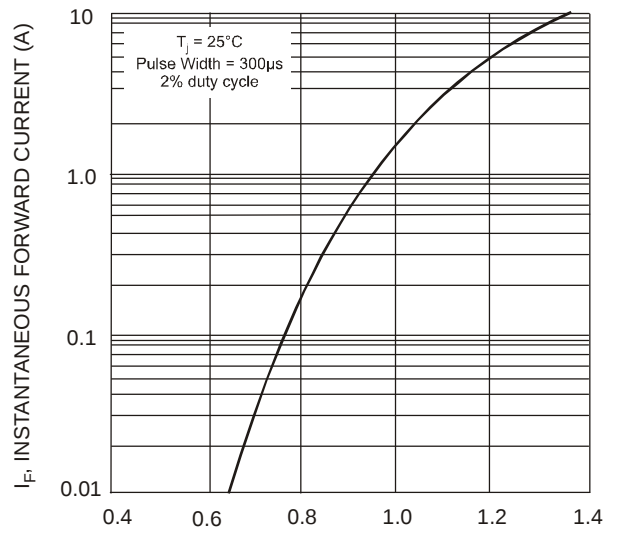
**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic                                              | Symbol           | DF 005S | DF 01S | DF 02S | DF 04S | DF 06S | DF 08S | DF 10S | Unit             |
|-------------------------------------------------------------|------------------|---------|--------|--------|--------|--------|--------|--------|------------------|
| Forward Voltage (Per Element) @ I <sub>F</sub> = 1.0A       | V <sub>FM</sub>  | 1.1     |        |        |        |        |        |        | V                |
| Peak Reverse Current at Rated @ T <sub>A</sub> = +25°C      | I <sub>RM</sub>  | 10      |        |        |        |        |        |        | μA               |
| DC Blocking Voltage (Per Element) @ T <sub>A</sub> = +125°C |                  | 500     |        |        |        |        |        |        |                  |
| I <sup>2</sup> t Rating for Fusing (t<8.3ms)                | I <sup>2</sup> t | 10.4    |        |        |        |        |        |        | A <sup>2</sup> s |
| Typical Total Capacitance (Per Element) (Note 5)            | C <sub>T</sub>   | 25      |        |        |        |        |        |        | pF               |

Notes: 5. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.  
6. Thermal resistance, junction to ambient, measured on PC board with 5.0mm<sup>2</sup> (0.03mm thick) land areas.



$T_A$ , AMBIENT TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 1 Output Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics (per element)

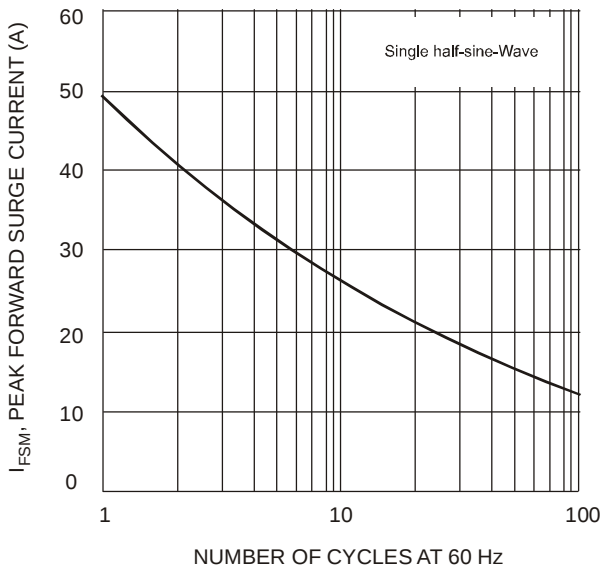


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

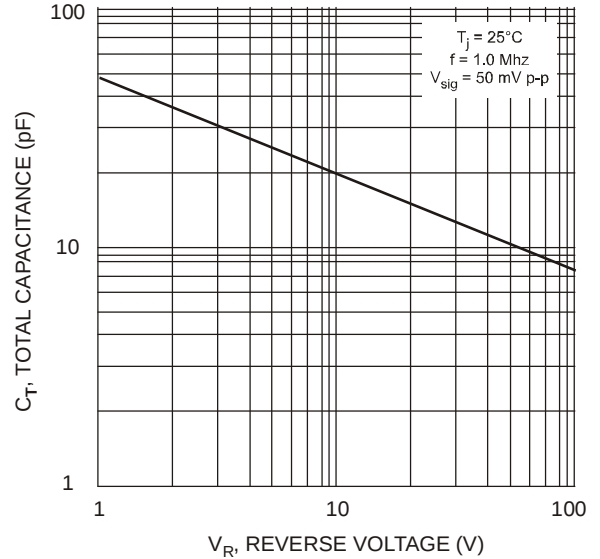
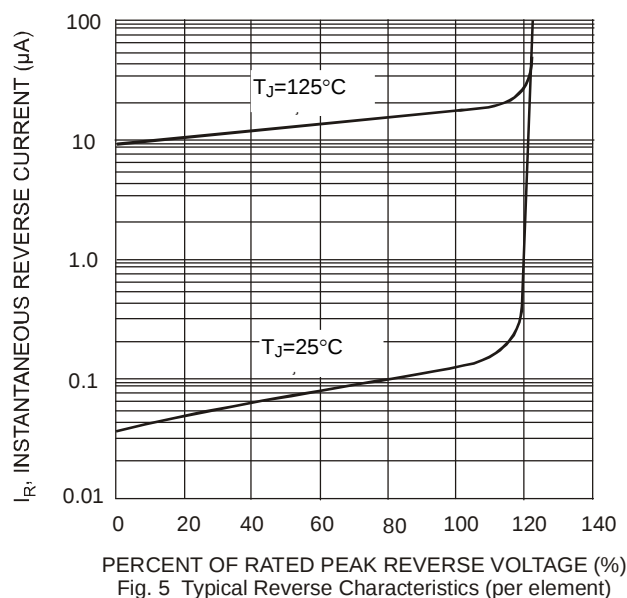
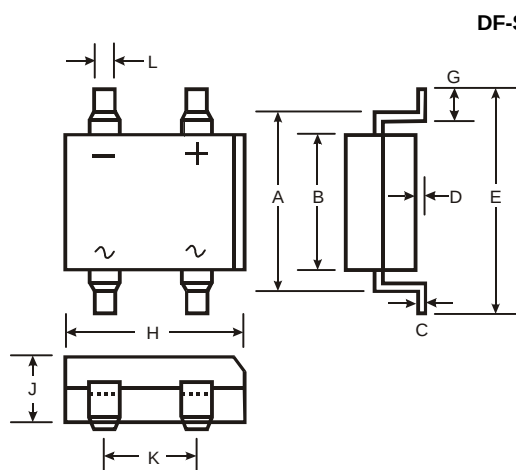


Fig. 4 Typical Total Capacitance (per element)



## Package Outline Dimensions

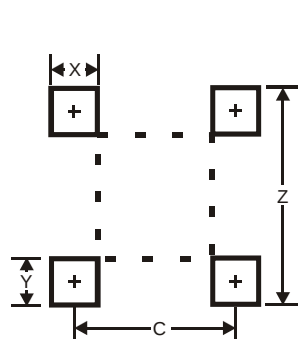
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



| DF-S                 |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 7.40  | 7.90  |
| B                    | 6.20  | 6.50  |
| C                    | 0.22  | 0.30  |
| D                    | 0.076 | 0.33  |
| E                    | —     | 10.40 |
| G                    | 1.02  | 1.53  |
| H                    | 8.13  | 8.51  |
| J                    | 2.40  | 2.60  |
| K                    | 5.00  | 5.20  |
| L                    | 1.00  | 1.20  |
| All Dimensions in mm |       |       |

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 10.26         |
| X          | 1.2           |
| Y          | 1.52          |
| C          | 5.2           |

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