

## Maximum Ratings and Electrical Characteristics (@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 15005S   | DF 1501S | DF 1502S | DF 1504S | DF 1506S | DF 1508S | DF 1510S | Unit             |
|----------------------------------------------------------------------------------------------------|-----------------------------------|-------------|----------|----------|----------|----------|----------|----------|------------------|
| Peak Repetitive Reverse Voltage                                                                    | V <sub>RRM</sub>                  |             |          |          |          |          |          |          |                  |
| Working Peak Reverse Voltage                                                                       | V <sub>RWM</sub>                  | 50          | 100      | 200      | 400      | 600      | 800      | 1000     | V                |
| DC Blocking Voltage                                                                                | V <sub>R</sub>                    |             |          |          |          |          |          |          |                  |
| RMS Reverse Voltage                                                                                | V <sub>R(RMS)</sub>               | 35          | 70       | 140      | 280      | 420      | 580      | 700      | V                |
| Average Forward Rectified Current @ T <sub>A</sub> = +40°C                                         | I <sub>O</sub>                    | 1.5         |          |          |          |          |          |          | A                |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>                  | 50          |          |          |          |          |          |          | A                |
| Forward Voltage (Per Element) @ I <sub>F</sub> = 1.5A                                              | 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               |
| 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               |

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.

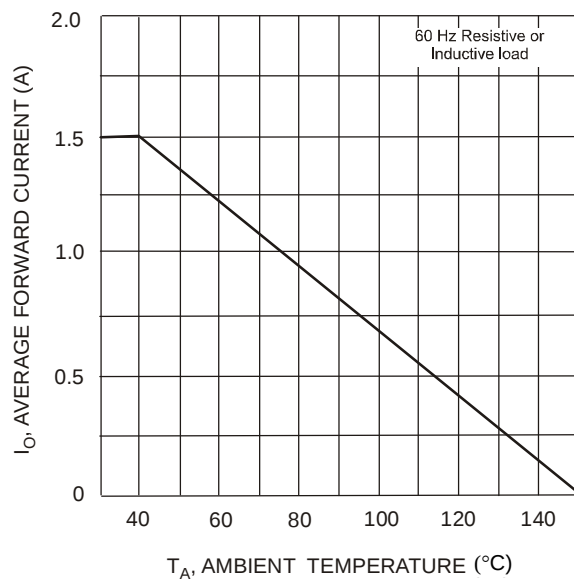


Fig. 1 Output Current Derating Curve

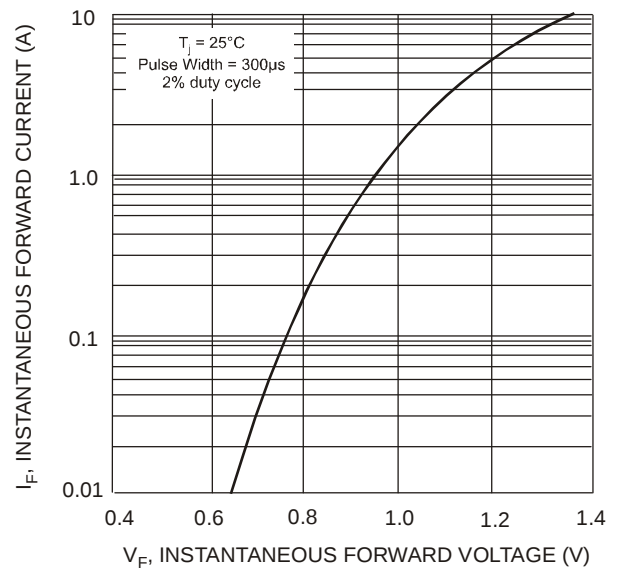


Fig. 2 Typical Forward Characteristics (per element)

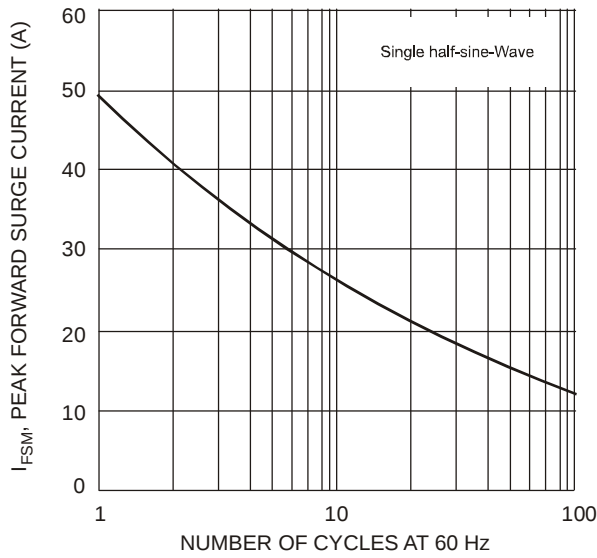


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

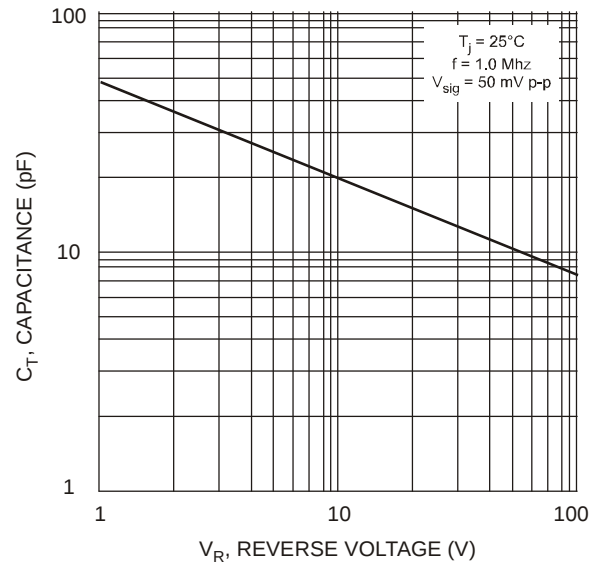


Fig. 4 Typical Total Capacitance (per element)

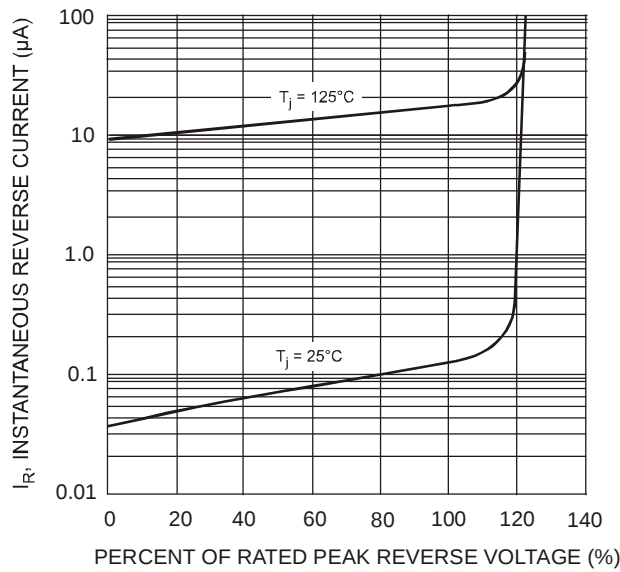
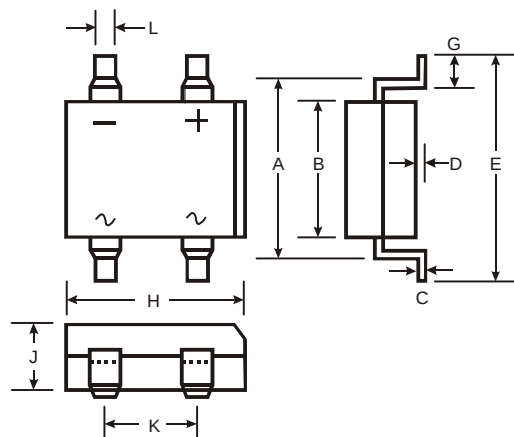


Fig. 5 Typical Reverse Characteristics (per element)

## Package Outline Dimensions

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

DF-S

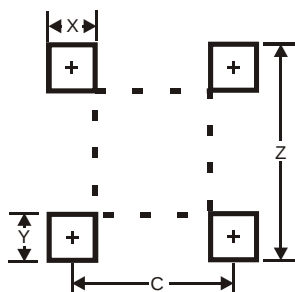


| DF-S                 |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 7.40  | 7.90  |
| B                    | 6.20  | 6.50  |
| C                    | 0.22  | 0.30  |
| D                    | 0.076 | 0.33  |
| E                    | —     | 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.

DF-S



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

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