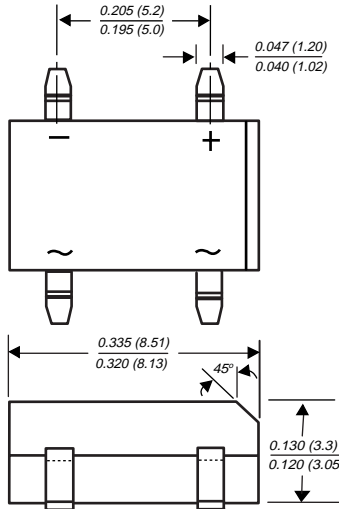




## Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers

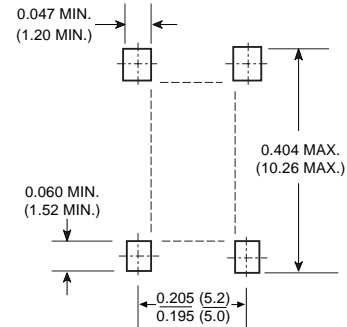
Reverse Voltage 50 to 1000V  
Forward Current 1.5A

Case Style DFS



Dimensions in inches and (millimeters)

Mounting Pad Layout



### Mechanical Data

**Case:** Molded plastic body over passivated junctions

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed:  
260°C/10 seconds at 5 lbs. (2.3kg) tension

**Polarity:** Polarity symbols marked on body

**Mounting Position:** Any **Weight:** 0.014 oz., 0.4 g

**Packaging codes/options:**

27/1.5K per 13" Reel (16mm Tape)

45/50 ea. per Tube-Bulk

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under Recognized Component Index, file number E54214
- Glass passivated chip junctions
- High surge overload rating of 50 Amperes peak
- Ideal for printed circuit boards

### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

| Parameter   | Symbol                               | DF15005S    | DF1501S | DF1502S | DF1504S | DF1506S | DF1508S | DF1510S | Unit               |
|---|--------------------------------------|-------------|---------|---------|---------|---------|---------|---------|--------------------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                     | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum RMS voltage   | V <sub>RMS</sub>                     | 35          | 70      | 140     | 280     | 420     | 560     | 700     | V                  |
| Maximum DC blocking voltage   | V <sub>DC</sub>                      | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum average forward output rectified current at T <sub>A</sub> = 40°C <sup>(2)</sup>                          | I <sub>F(AV)</sub>                   | 1.5         |         |         |         |         |         |         | A                  |
| Peak forward surge current single half sine-wave superimposed on rated load (JEDEC Method) T <sub>J</sub> = 150°C | I <sub>FSM</sub>                     | 50          |         |         |         |         |         |         | A                  |
| Rating for fusing (t < 8.3ms)   | I <sup>2</sup> t                     | 10          |         |         |         |         |         |         | A <sup>2</sup> sec |
| Typical thermal resistance per leg <sup>(2)</sup>   | R <sub>θJA</sub><br>R <sub>θJL</sub> | 40<br>15    |         |         |         |         |         |         | °C/W               |
| Operating junction and storage temperature range  | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150 |         |         |         |         |         |         | °C                 |

### Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

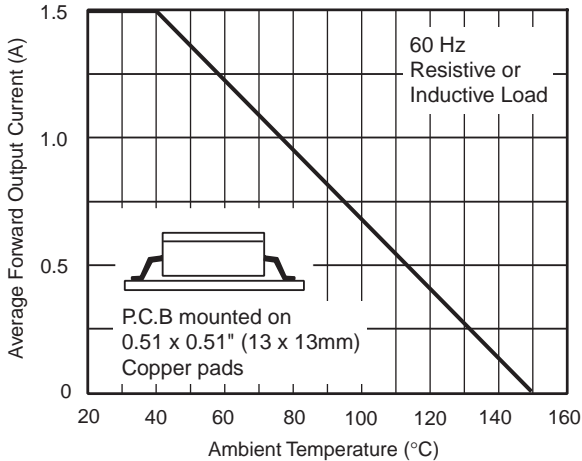
|   |                |            |  |  |  |  |  |  |    |
|---|----------------|------------|--|--|--|--|--|--|----|
| Max. instantaneous forward voltage drop per leg at 1.5A         | V <sub>F</sub> | 1.1        |  |  |  |  |  |  | V  |
| Maximum DC reverse current at rated DC blocking voltage per leg | I <sub>R</sub> | 5.0<br>500 |  |  |  |  |  |  | μA |
| Typical junction capacitance per leg <sup>(1)</sup>             | C <sub>J</sub> | 25         |  |  |  |  |  |  | pF |

**Notes:** (1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

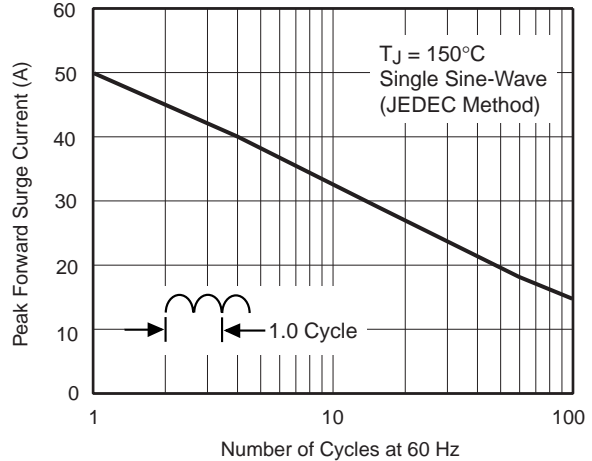
(2) Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13mm) copper pads

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

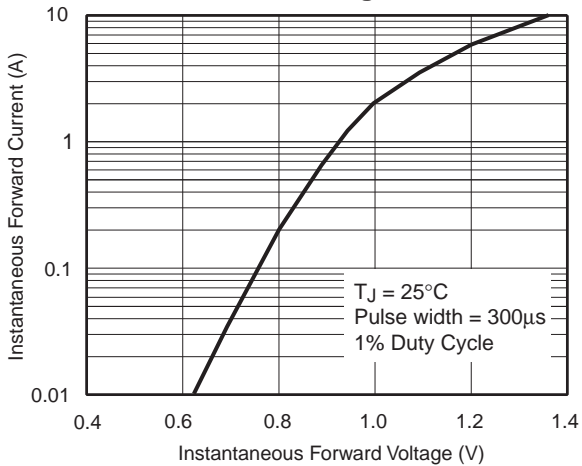
**Fig. 1 - Derating Curve Output Rectified Current**



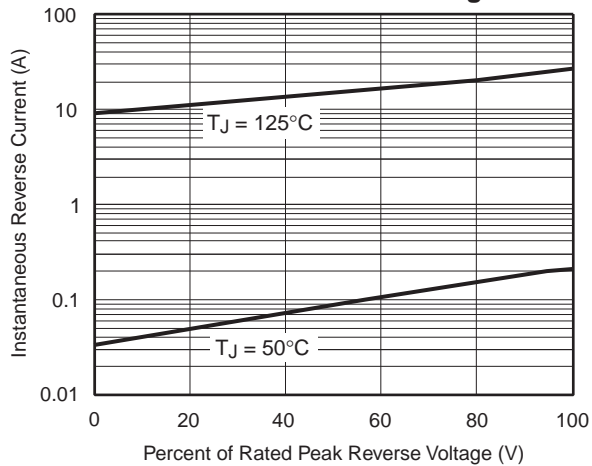
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



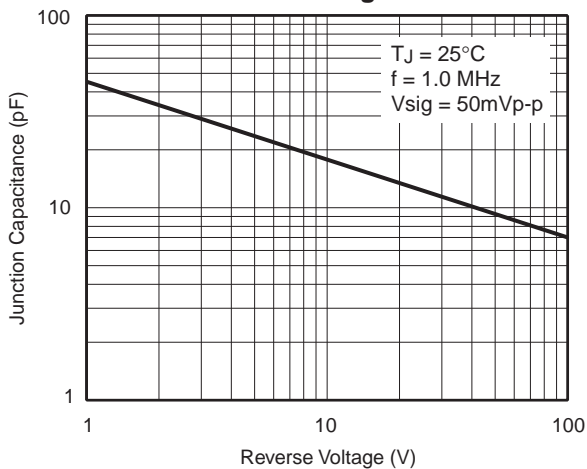
**Fig. 3 - Typical Forward Characteristics Per Leg**



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



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



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

