

1.5A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

Features and Benefits

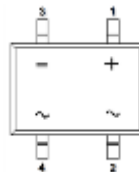
- Glass Passivated Die Construction
- Low Forward Voltage Drop, High Current Capability
- Surge Overload Rating to 50A Peak
- Designed for Surface Mount Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

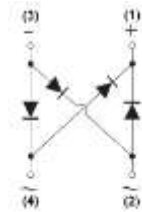
- Case: DF-S
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Solder Plated Leads, Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Case
- Marking: Type Number
- Weight: 0.38 grams (Approximate)



Top View



Pin Diagram



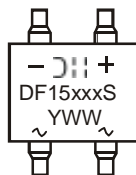
Internal Schematic

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|------------|-----------|------------------|
| DF15xxxS-T | DF-S | 1500/Tape & Reel |
| DF15xxxS | DF-S | 50/Tube |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



D = Manufacturers' Code Marking
 DF15xxxS = Product Type Marking Code
 ex: DF1510S
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 6 for 2016)
 WW = Week Code (01 to 53)

Maximum Ratings and Electrical Characteristics (@T_A = +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 _{RRM} | | | | | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| DC Blocking Voltage | V _R | | | | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 580 | 700 | V |
| Average Forward Rectified Current @ T _A = +40°C | I _O | 1.5 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 50 | | | | | | | A |
| Forward Voltage (Per Element) @ I _F = 1.5A | V _{FM} | 1.1 | | | | | | | V |
| Peak Reverse Current at Rated @ T _A = +25°C | | 10 | | | | | | | μA |
| DC Blocking Voltage (Per Element) @ T _A = +125°C | I _{RM} | 500 | | | | | | | |
| I ² t Rating for Fusing (t<8.3ms) | I ² t | 10.4 | | | | | | | A ² s |
| Typical Total Capacitance per Element (Note 5) | C _T | 25 | | | | | | | pF |
| Typical Thermal Resistance, Junction to Ambient (Note 6) | R _{θJA} | 40 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -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 5.0mm² (0.03mm thick) land areas.

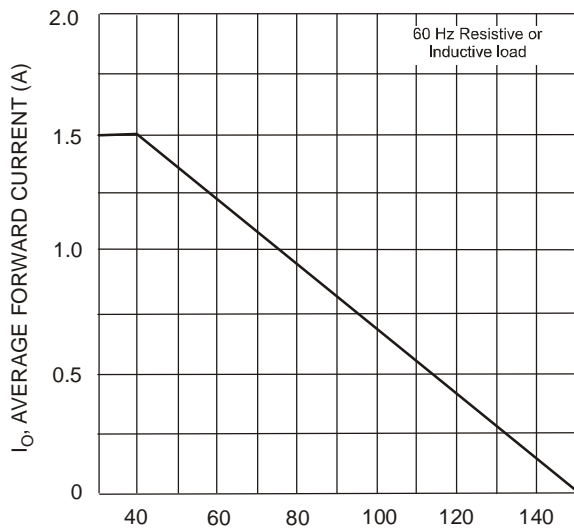


Fig. 1 Output Current Derating Curve

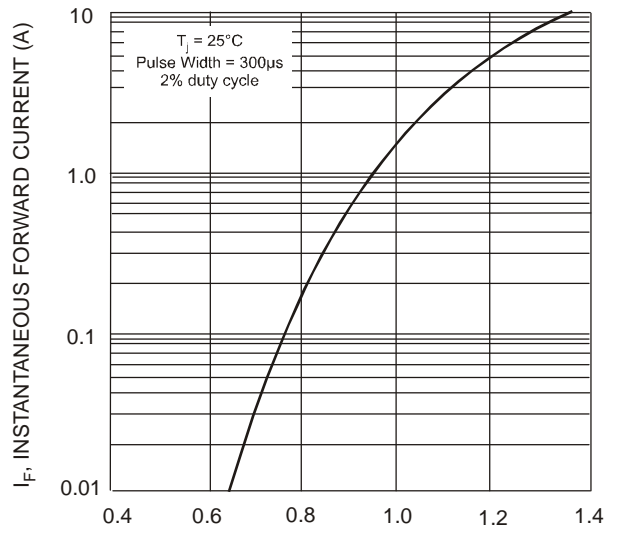


Fig. 2 Typical Forward Characteristics (per element)

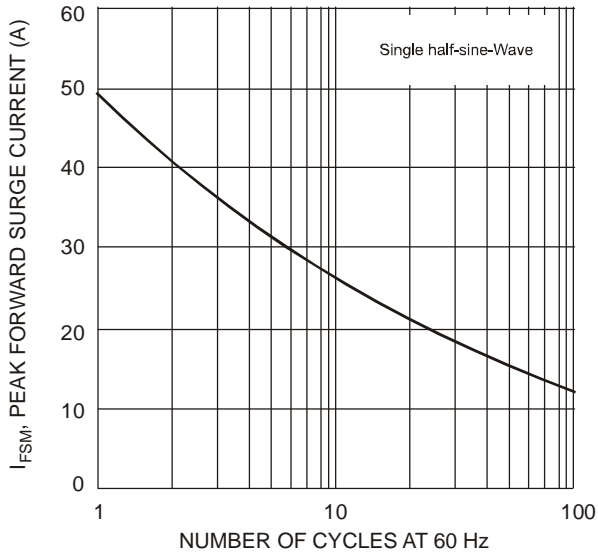


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

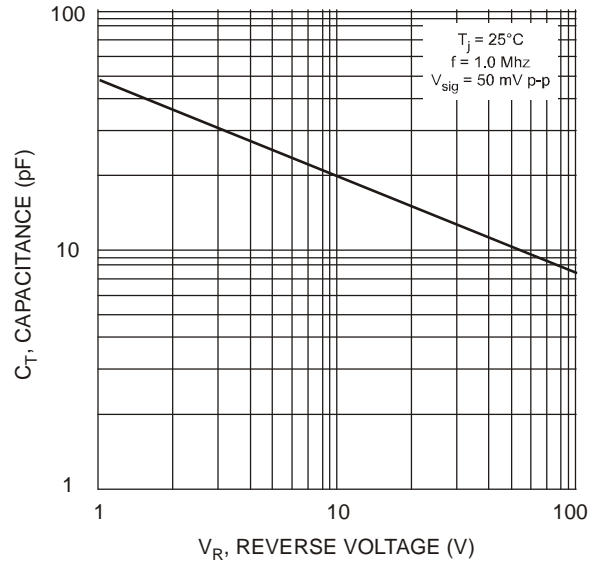


Fig. 4 Typical Total Capacitance (per element)

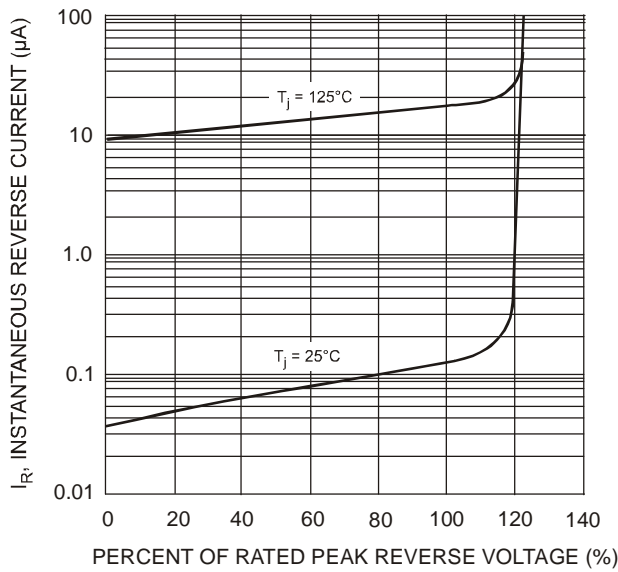
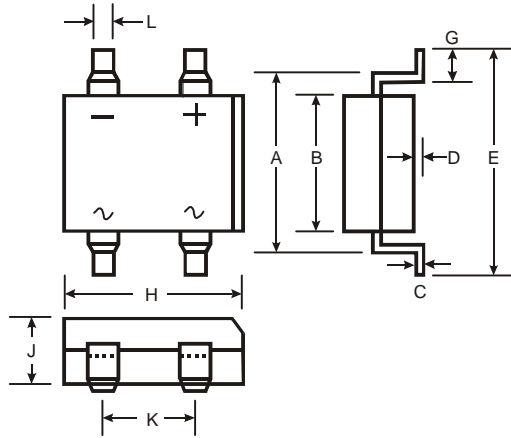


Fig. 5 Typical Reverse Characteristics (per element)

Package Outline Dimensions

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

DF-S

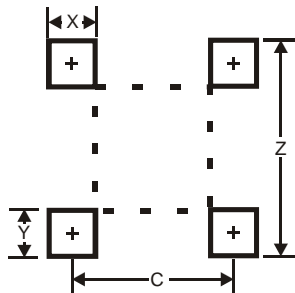


| DF-S | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 7.40 | 7.90 |
| B | 6.20 | 6.50 |
| C | 0.22 | 0.30 |
| D | 0.076 | 0.33 |
| E | — | 10.40 |
| G | 1.02 | 1.53 |
| H | 8.13 | 8.51 |
| J | 2.40 | 2.60 |
| K | 5.00 | 5.20 |
| L | 1.00 | 1.20 |
| All Dimensions in mm | | |

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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