

### Features and Benefits

- UL Recognized, File #94661
- Ideal for Printed Circuit Board
- Surge Overload Rating of 250A Peak
- Low Forward Voltage Drop
- The Plastic Material Carries UL Recognition 94V-0
- **Lead Free Finish, RoHS Compliant (Date Code 0514+)**  
(Note 1)

### Mechanical Data

- Case: RS-6, Molded Plastic
- Terminals: Leads Solderable per MIL-STD-202, Method 208
- Polarity: Symbols Marked on Body
- Weight: 8.0 grams (approximate)

### Ordering Information (Note 2)

| Part Number | Case | Packaging |
|-------------|------|-----------|
| RS601       | RS-6 | 0.5K Bulk |
| RS602       | RS-6 | 0.5K Bulk |
| RS603       | RS-6 | 0.5K Bulk |
| RS604       | RS-6 | 0.5K Bulk |
| RS605       | RS-6 | 0.5K Bulk |
| RS606       | RS-6 | 0.5K Bulk |
| RS607       | RS-6 | 0.5K Bulk |

Notes: 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2). All applicable RoHS exemptions applied.  
 2. For Packaging Details, go to our website at <http://www.diodes.com>.

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

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

| Characteristic   | Symbol                  | RS<br>601   | RS<br>602 | RS<br>603 | RS<br>604 | RS<br>605 | RS<br>606 | RS<br>607 | Unit |
|--|-------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Maximum Recurrent Peak Reverse Voltage                                     | $V_{RRM}$               | 50          | 100       | 200       | 400       | 600       | 800       | 1000      | V    |
| Maximum RMS Bridge Input Voltage   | $V_{RSM}$               | 35          | 70        | 140       | 280       | 420       | 560       | 700       | V    |
| Maximum DC Blocking Voltage  | $V_{DC}$                | 50          | 100       | 200       | 400       | 600       | 800       | 1000      | V    |
| Maximum Average Forward Current  | @T <sub>C</sub> = 100°C | 6.0         |           |           |           |           |           |           | A    |
|  | @T <sub>A</sub> = 40°C  |             |           |           |           |           |           |           |      |
| Peak Forward Surge Current, 8.3ms Half Sine-Wave Superimposed on Rate Load | $I_{FSM}$               | 250         |           |           |           |           |           |           | A    |
| Maximum DC Forward Voltage Drop per Element at 3.0A                        | $V_F$                   | 1.0         |           |           |           |           |           |           | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage, per Element       | @T <sub>A</sub> = 25°C  | 10          |           |           |           |           |           |           | μA   |
|  | @T <sub>A</sub> = 100°C | 1.0         |           |           |           |           |           |           | mA   |
| Maximum Thermal Resistance (Note 3)  | $R_{θJC}$               | 4.7         |           |           |           |           |           |           | °C/W |
| Operating Temperature Range  | T <sub>J</sub>          | -55 TO +125 |           |           |           |           |           |           | °C   |
| Storage Temperature Range  | T <sub>STG</sub>        | -55 TO +150 |           |           |           |           |           |           | °C   |

Notes: 3. Thermal Resistance, Junction to case per diode.

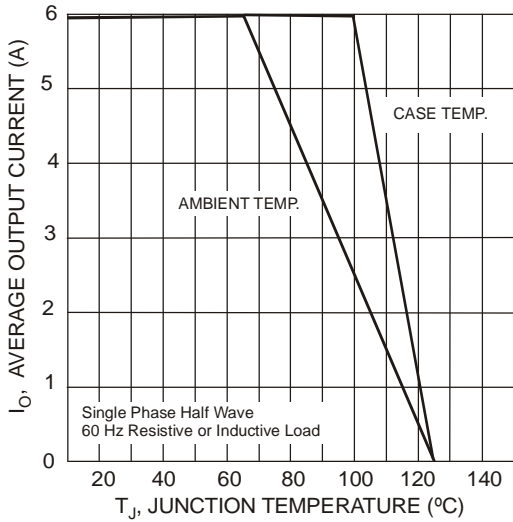


Fig. 1 Forward Current Derating Curve

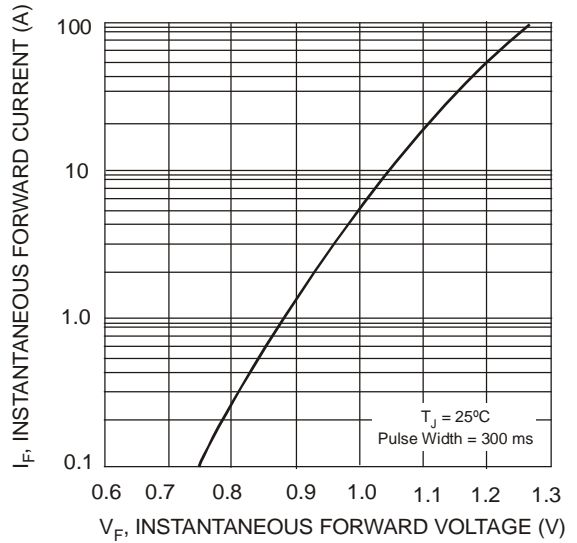


Fig. 2 Typical Forward Characteristics

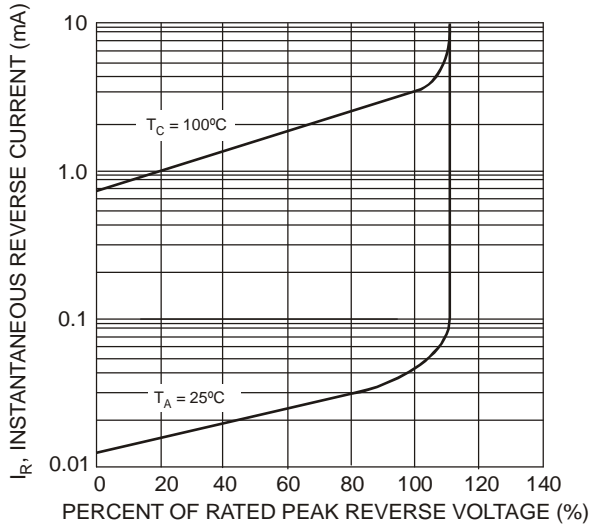


Fig. 3 Typical Reverse Characteristics

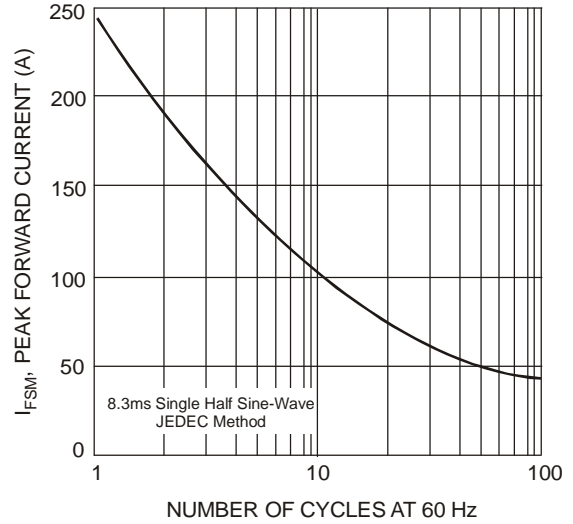


Fig. 4 Max Non-Repetitive Peak Forward Surge Current

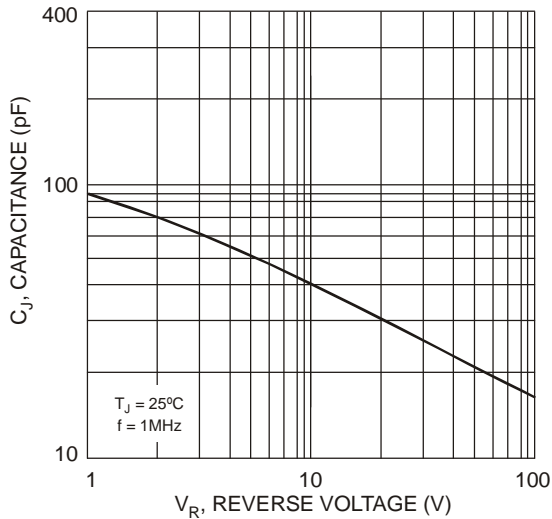
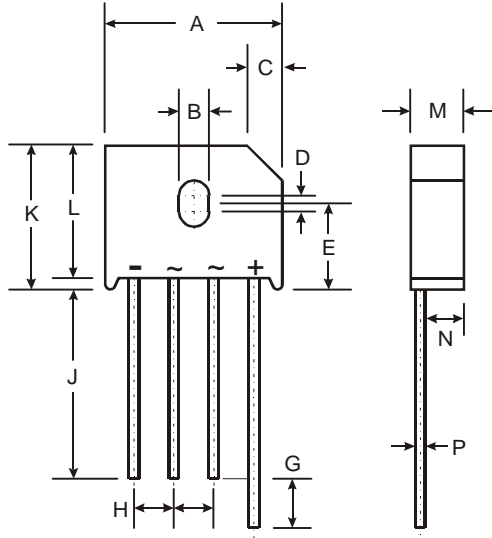


Fig. 5 Typical Junction Capacitance Per Element

**Package Outline Dimensions**



| RS-6                        |      |      |
|-----------------------------|------|------|
| Dim                         | Min  | Max  |
| A                           | 22.7 | 23.7 |
| B                           | 3.6  | 4.1  |
| C                           | 4.2  | 4.7  |
| D                           | 1.7  | 2.2  |
| E                           | 10.3 | 11.3 |
| G                           | 4.5  | 6.8  |
| H                           | 4.6  | 5.6  |
| J                           | 25.4 | -    |
| K                           | -    | 19.3 |
| L                           | 16.8 | 17.8 |
| M                           | 6.6  | 7.1  |
| N                           | 4.7  | 5.2  |
| P                           | 1.2  | 1.3  |
| <b>All Dimensions in mm</b> |      |      |

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