



# SOLID STATE INC.

46 FARRAND STREET  
BLOOMFIELD, NEW JERSEY 07003

www.solidstateinc.com

## RECTIFIERS

### High Efficiency, ESP, 2.5 Amp to 20 Amp

1N5802-1N5806  
1N5807-1N5811  
1N5812-1N5816

#### FEATURES

- Exceptional Efficiency
- Low Forward Voltage
- Extremely Fast Reverse Recovery Time
- Extremely Fast Forward Recovery Time
- High Surge
- Small Size

#### DESCRIPTION

This series of High Efficiency Power Rectifiers allows circuit designers to design high current, high frequency supplies to 500 kHz with very low diode losses. The high forward surge capability makes these devices useful in protective circuits.

#### ABSOLUTE MAXIMUM RATINGS

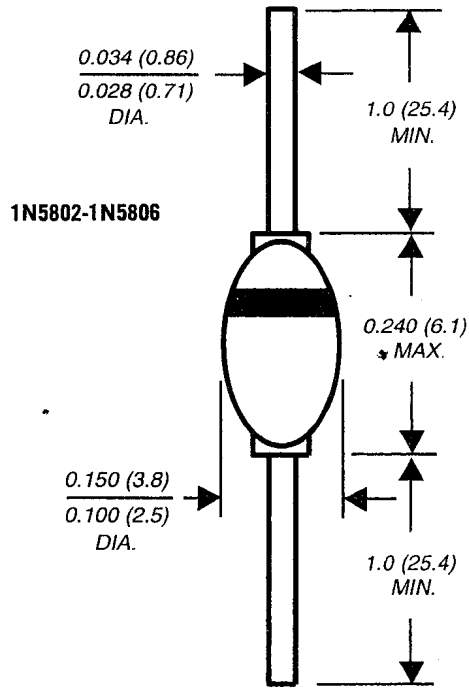
| Peak Inverse Voltage | 2.5 Amp Series | 6 Amp Series | 20 Amp Series |
|----------------------|----------------|--------------|---------------|
| 50V                  | 1N5802         | 1N5807       | 1N5812        |
| 75V                  | 1N5803         | 1N5808       | 1N5813        |
| 100V                 | 1N5804         | 1N5809       | 1N5814        |
| 125V                 | 1N5805         | 1N5810       | 1N5815        |
| 150V                 | 1N5806         | 1N5811       | 1N5816        |

|   | 2.5 AMP SERIES  | 6.0 AMP SERIES | 20 AMP SERIES |
|---|-----------------|----------------|---------------|
| Maximum Average D.C. Output Current             | 2.5A            | 6.0A           | —             |
| @ $T_L = 75^\circ\text{C}$ , $L = 3/8"$         | 2.5A            | 6.0A           | —             |
| @ $T_C = 100^\circ\text{C}$                     | 2.5A            | 6.0A           | 20.0A         |
| Non-Repetitive Sinusoidal Surge Current (8.3ms) | 35A             | 125A           | 250A          |
| Operating and Storage Temperature Range         | -65°C to +175°C |                |               |

#### ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

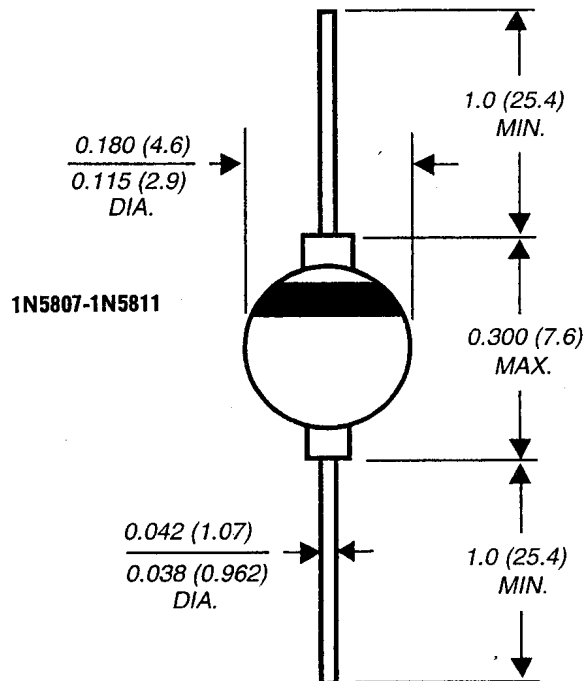
| Type   | PIV  | Maximum Forward Voltage Drop* | Leakage Current @ PIV |       | Maximum Reverse Recovery Time<br>$I_F, I_R, I_{REC}$ | Typical Forward Recovery Time<br>@ 1A Recover to 1V | Typical Forward Recovery Voltage<br>@ 1A tr = 8ns | Typical Junction Capacitance<br>@ -10V |
|--------|------|-------------------------------|-----------------------|-------|--|---|---|--|
|        |      |                               | 25°C                  | 100°C |  |   |   |  |
| 1N5802 | 50V  | .875 @ 1A                     | 1μA                   | 50μA  | 25ns, 0.5A-0.5A-0.05A                                | 15ns  | 1.5V  | 15pf                                   |
| 1N5803 | 75V  |                               |                       |       |  |   |   |  |
| 1N5804 | 100V |                               |                       |       |  |   |   |  |
| 1N5805 | 125V |                               |                       |       |  |   |   |  |
| 1N5806 | 150V |                               |                       |       |  |   |   |  |
| 1N5807 | 50V  | .875 @ 4A                     | 5μA                   | 150μA | 30ns, 1.0-1.0-0.1A                                   | 15ns  | 1.5V  | 45pf                                   |
| 1N5808 | 75V  |                               |                       |       |  |   |   |  |
| 1N5809 | 100V |                               |                       |       |  |   |   |  |
| 1N5810 | 125V |                               |                       |       |  |   |   |  |
| 1N5811 | 150V |                               |                       |       |  |   |   |  |
| 1N5812 | 50V  | .900 @ 10A                    | 10μA                  | 750μA | 35ns, 1.0-1.0-0.1A                                   | 15ns  | 1.5V  | 200pf                                  |
| 1N5813 | 75V  |                               |                       |       |  |   |   |  |
| 1N5814 | 100V |                               |                       |       |  |   |   |  |
| 1N5815 | 125V |                               |                       |       |  |   |   |  |
| 1N5816 | 150V |                               |                       |       |  |   |   |  |

### DO-204AP



Dimensions in inches and (millimeters)

### Case Style G4



Dimensions in inches and (millimeters)

## MECHANICAL SPECIFICATIONS

