

## FR101 THRU FR107

### FAST SWITCHING PLASTIC RECTIFIER

VOLTAGE:50 TO 1000V

CURRENT:1.0A



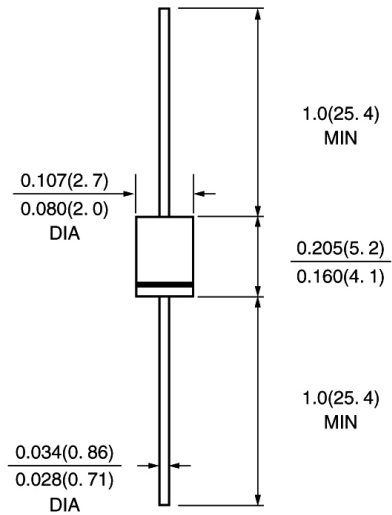
#### FEATURE

Molded case feature for auto insertion  
High current capability  
Low leakage current  
High surge capability  
High temperature soldering guaranteed  
250°C10sec/0.375"lead length at 5 lbs tension  
Fast switching for high efficiency

#### MECHANICAL DATA

Terminal:Plated axial leads solderable per  
MIL-STD 202E, method 208C  
Case:Molded with UL-94 Class V-0 recognized Flame  
Retardant Epoxy  
Polarity:color band denotes cathode  
Mounting position:any

#### DO- 41\DO-204AL



Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half -wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

|                                                                                   | SYMBOL              | FR<br>101    | FR<br>102 | FR<br>103 | FR<br>104 | FR<br>105 | FR<br>106 | FR<br>107 | units    |
|-----------------------------------------------------------------------------------|---------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Maximum Recurrent 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 Rectified Current 3/8"lead length at Ta =75°C             | I <sub>f(av)</sub>  | 1.0          |           |           |           |           |           |           | A        |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | I <sub>fsm</sub>    | 30.0         |           |           |           |           |           |           | A        |
| Maximum Forward Voltage at rated Forward Current and 25°C                         | V <sub>f</sub>      | 1.3          |           |           |           |           |           |           | V        |
| Maximum DC Reverse Current Ta =25°C at rated DC blocking voltage Ta =100°C        | I <sub>r</sub>      | 5.0<br>100.0 |           |           |           |           |           |           | μA<br>μA |
| Maximum Reverse Recovery Time (Note 1)                                            | T <sub>rr</sub>     | 150          |           |           |           |           | 250       | 500       | nS       |
| Typical Junction Capacitance (Note 2)                                             | C <sub>j</sub>      | 15.0         |           |           |           |           |           |           | pF       |
| Typical Thermal Resistance (Note 3)                                               | R(ja)               | 50.0         |           |           |           |           |           |           | °C/W     |
| Storage and Operating Junction Temperature                                        | T <sub>stg,Tj</sub> | -50 to +150  |           |           |           |           |           |           | °C       |

Note:

1. Reverse Recovery Condition I<sub>f</sub> =0.5A, I<sub>r</sub> =1.0A, I<sub>rr</sub> =0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to Ambient at 0.375"lead length, P.C. Board Mounted

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

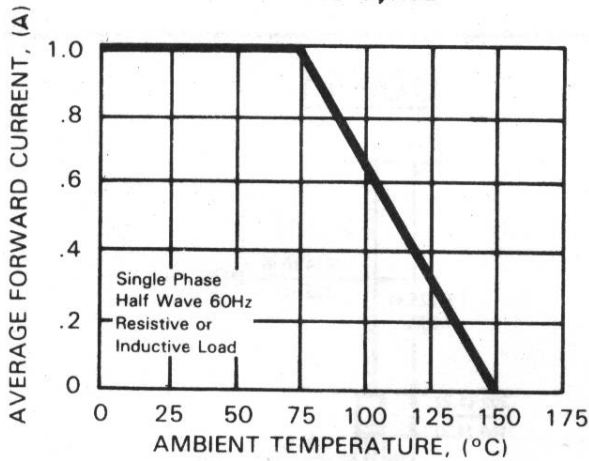


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

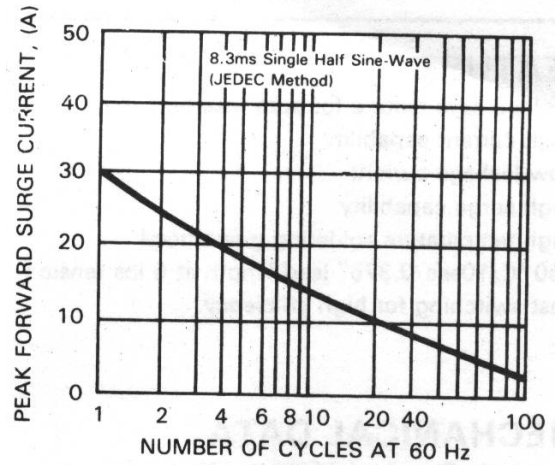


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

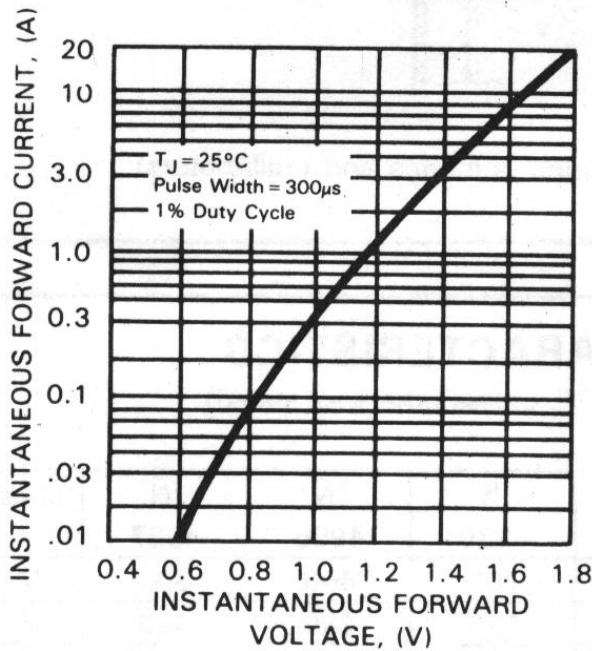


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

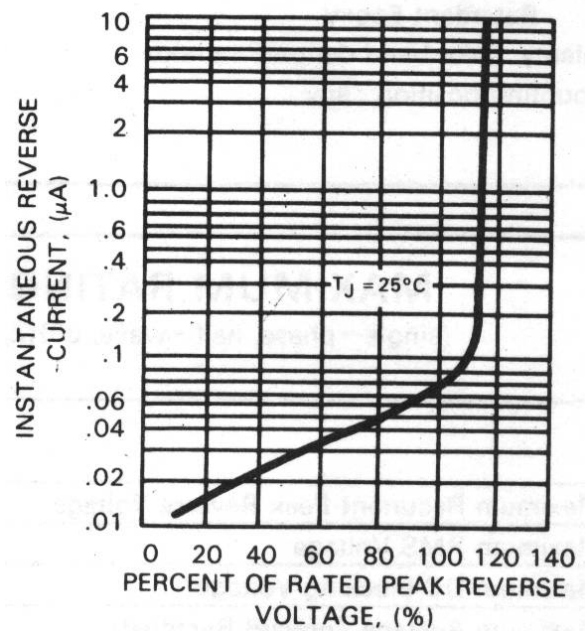


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

