



# MR850 THRU MR858

## 3.0 AMPS. Fast Recovery Rectifiers



Voltage Range  
50 to 800 Volts  
Current  
3.0 Amperes

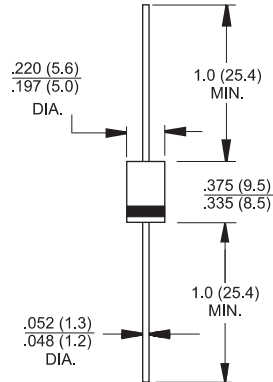
### Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed:  
260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.2 grams

### DO-201AD



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number                                                                                               | Symbol            | MR 850      | MR 851 | MR 852 | MR 854 | MR 856 | MR 858 | Units    |
|-----------------------------------------------------------------------------------------------------------|-------------------|-------------|--------|--------|--------|--------|--------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                    | V <sub>RRM</sub>  | 50          | 100    | 200    | 400    | 600    | 800    | V        |
| Maximum RMS Voltage                                                                                       | V <sub>RMS</sub>  | 35          | 70     | 140    | 280    | 420    | 560    | V        |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>   | 50          | 100    | 200    | 400    | 600    | 800    | V        |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ T <sub>A</sub> = 55°C                | I <sub>(AV)</sub> | 3.0         |        |        |        |        |        | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )       | I <sub>FSM</sub>  | 150         |        |        |        |        |        | A        |
| Maximum Instantaneous Forward Voltage @ 3.0A                                                              | V <sub>F</sub>    | 1.25        |        |        |        | 1.3    |        | V        |
| Maximum DC Reverse Current @ T <sub>A</sub> =25°C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> =100°C | I <sub>R</sub>    | 10<br>200   |        |        |        |        |        | uA<br>uA |
| Maximum Reverse Recovery Time ( Note 1 )                                                                  | T <sub>rr</sub>   | 100         |        |        |        | 150    |        | nS       |
| Typical Junction Capacitance ( Note 2 )                                                                   | C <sub>j</sub>    | 60          |        |        |        |        |        | pF       |
| Typical Thermal Resistance ( Note 3 )                                                                     | R <sub>θJA</sub>  | 45          |        |        |        |        |        | °C/W     |
| Operating Temperature Range                                                                               | T <sub>j</sub>    | -65 to +150 |        |        |        |        |        | °C       |
| Storage Temperature Range                                                                                 | T <sub>STG</sub>  | -65 to +150 |        |        |        |        |        | °C       |

Notes: 1. Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (MR850 THRU MR858)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

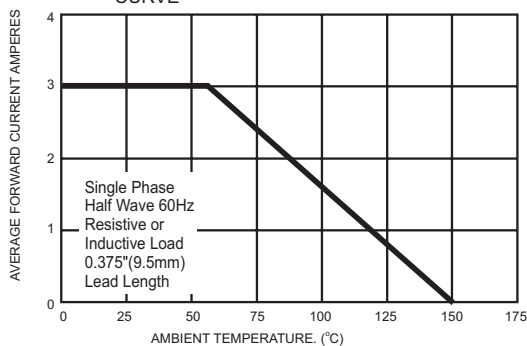


FIG.2- MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

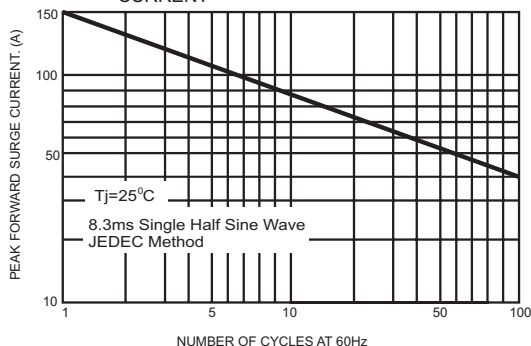


FIG.3- TYPICAL FORWARD CHARACTERISTICS

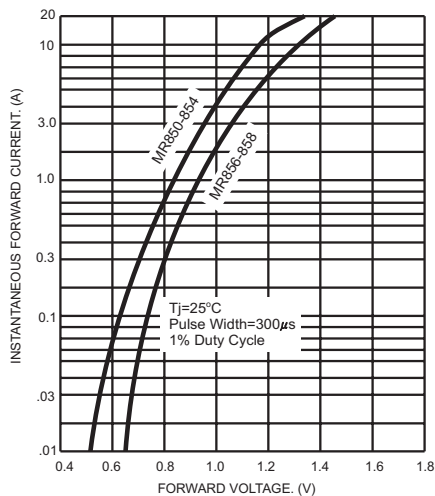


FIG.4- TYPICAL JUNCTION CAPACITANCE

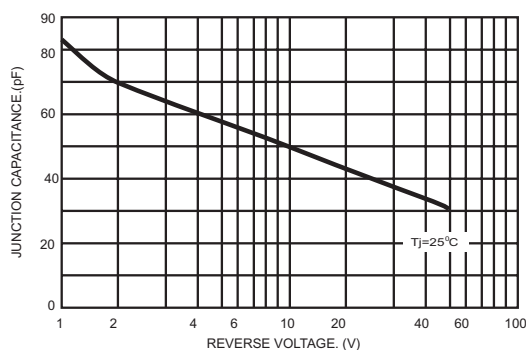


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

