

# MR850 - MR858

**PRV : 50 - 600 Volts**  
**Io : 3.0 Amperes**

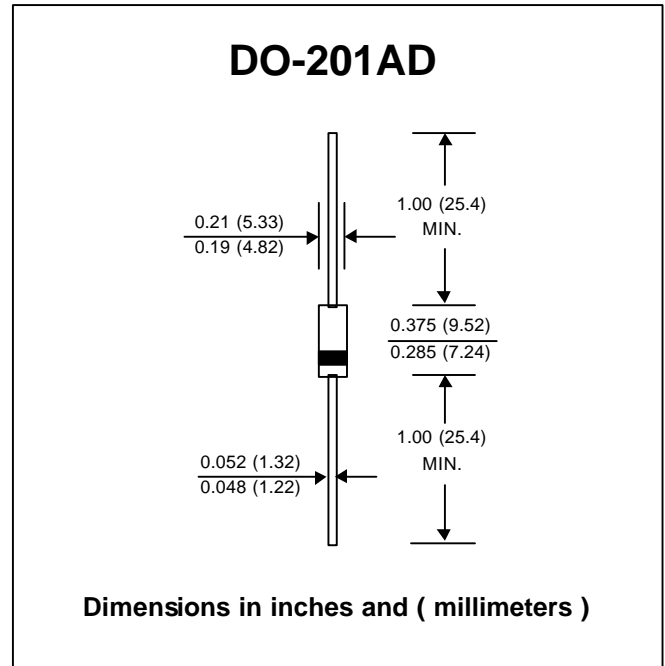
### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency

### MECHANICAL DATA :

- \* Case : DO-201AD Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 1.21 grams

## FAST RECOVERY RECTIFIER DIODES



### 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%.

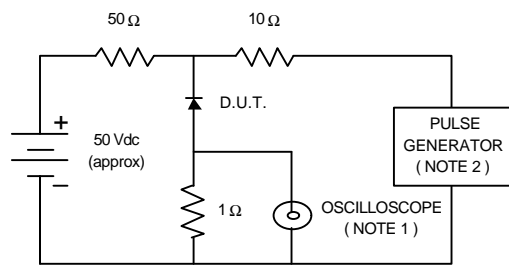
RATING	SYMBOL	MR850	MR851	MR852	MR854	MR856	MR858	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	Volts
Maximum Average Forward Current 0.375"(9.5mm) Lead Length $T_a = 90\text{ }^\circ\text{C}$	$I_{F(AV)}$	3.0						Amps.
Peak Forward Surge Current, 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	100						Amps.
Maximum Peak Forward Voltage at $I_F = 3.0$ Amps.	$V_F$	1.25						Volts
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	10						$\mu\text{A}$
	$I_{R(H)}$	150						$\mu\text{A}$
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	150						ns
Typical Junction Capacitance ( Note 2 )	$C_J$	28						pf
Junction Temperature Range	$T_J$	- 65 to + 150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 65 to + 150						$^\circ\text{C}$

### Notes :

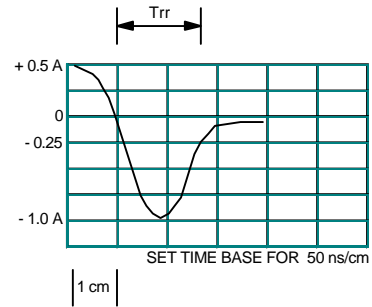
- ( 1 ) Reverse Recovery Test Conditions :  $I_F = 0.5\text{ A}$ ,  $I_R = 1.0\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

## RATING AND CHARACTERISTIC CURVES ( MR850 - MR858 )

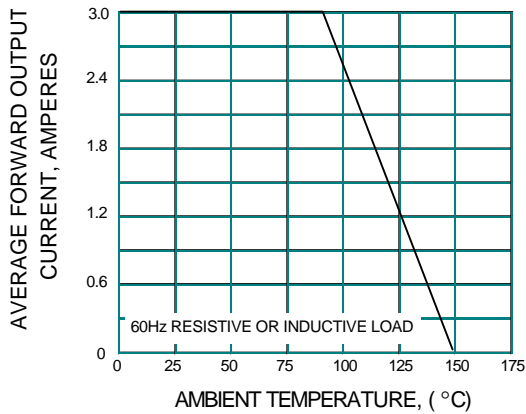
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



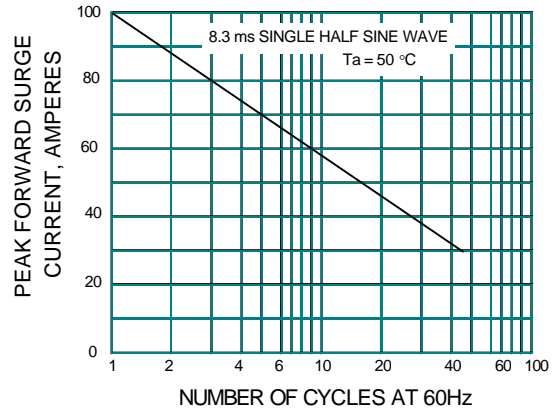
NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.



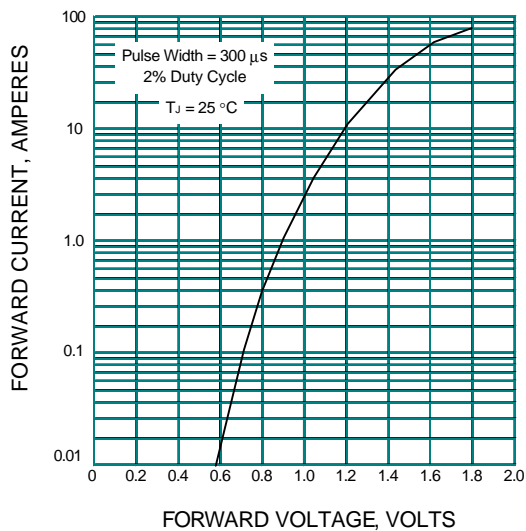
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

