



MR850 THRU MR856

SOFT RECOVERY, FAST SWITCHING PLASTIC RECTIFIER

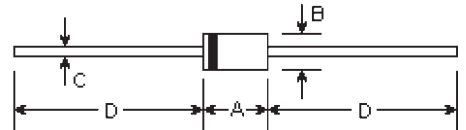
Reverse Voltage - 50 to 600 Volts

Forward Current - 3.0 Amperes

Features

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Void-free molded plastic package
- 3.0 ampere operation at $T_A=50^\circ\text{C}$ with no thermal runaway
- Fast switching for high efficiency

DO-201AD



Mechanical Data

- **Case:** DO-201AD molded plastic
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.042 ounce, 1.195 grams

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.283	0.374	7.20	9.50	
B	0.189	0.208	4.80	5.30	ϕ
C	0.048	0.051	1.20	1.30	ϕ
D	1.000	-	25.40	-	

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Resistive or inductive load.

	Symbols	MR850	MR851	MR852	MR854	MR856	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=50^\circ\text{C}$	I_{AV}	3.0					Amps
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) at $T_A=25^\circ\text{C}$	I_{FSM}	100.0					Amps
Maximum repetitive peak forward surge (Note 1)	I_{FRM}	10.0					Amps
Maximum instantaneous forward voltage at 3.0A	V_F	1.25					Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	10.0 500.0					μA
Maximum reverse recovery time (Note 3) $T_J=25^\circ\text{C}$	T_{rr}	150.0					nS
Typical junction capacitance (Note 2)	C_J	28.0					pF
Typical thermal resistance (Note 4)	$R_{\theta JA}$	15.0					$^\circ\text{C/W}$
Operating junction temperature range	T_J	-50 to +125					$^\circ\text{C}$
Storage temperature range	T_{STG}	-50 to +150					$^\circ\text{C}$

Notes:

- (1) Repetitive peak forward surge current at $f < 15\text{KHz}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_r=0.25\text{A}$
- (4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead lengths with both leads to heat sink

RATINGS AND CHARACTERISTIC CURVES

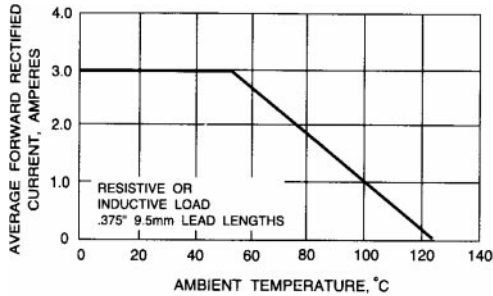


Fig. 1 - FORWARD CURRENT DERATING CURVE

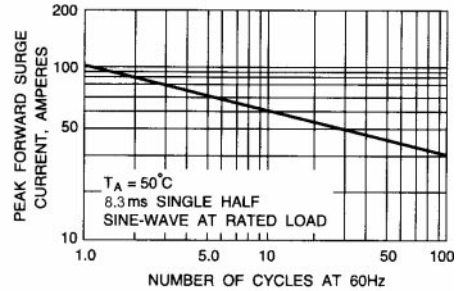


Fig. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

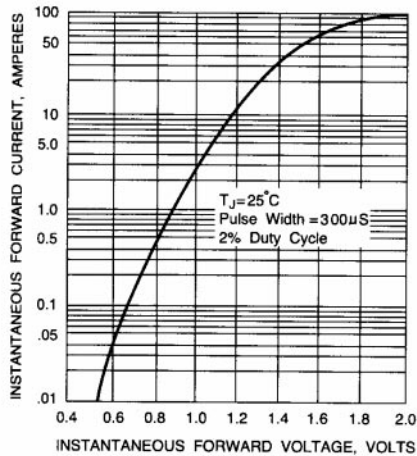


Fig. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

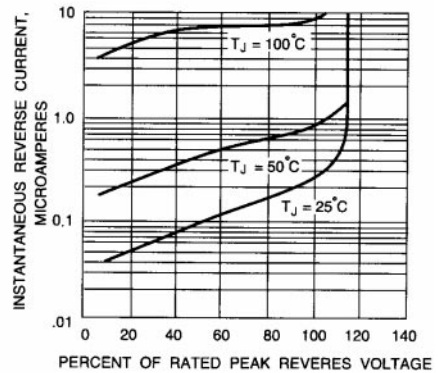


Fig. 4 - TYPICAL REVERSE CHARACTERISTICS

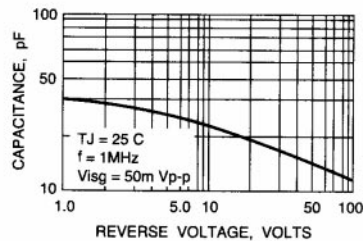


Fig. 5 - TYPICAL JUNCTION CAPACITANCE