

# MR850, MR851, MR852, MR854, MR856

MR852 and MR856 are Preferred Devices

## Axial Lead Fast Recovery Rectifiers

Axial lead mounted fast recovery power rectifiers are designed for special applications such as dc power supplies, inverters, converters, ultrasonic systems, choppers, low RF interference and free wheeling diodes. A complete line of fast recovery rectifiers having typical recovery time of 100 nanoseconds providing high efficiency at frequencies to 250 kHz.

### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.1 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 500 per box
- Available Tape and Reeled, 1200 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode Indicated by Polarity Band
- Marking: MR850, MR851, MR852, MR854, MR856

### MAXIMUM RATINGS

Please See the Table on the Following Page



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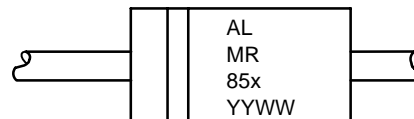
<http://onsemi.com>

## FAST RECOVERY POWER RECTIFIERS 3.0 AMPERES 50–600 VOLTS



AXIAL LEAD  
CASE 267-05  
STYLE 1

### MARKING DIAGRAM



AL = Assembly Location  
MR85x = Device Number  
x = 0, 1, 2, 4 or 6  
YY = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping
MR850	Axial Lead	500 Units/Box
MR850RL	Axial Lead	1200/Tape & Reel
MR851	Axial Lead	500 Units/Box
MR851RL	Axial Lead	1200/Tape & Reel
MR852	Axial Lead	500 Units/Box
MR852RL	Axial Lead	1200/Tape & Reel
MR854	Axial Lead	500 Units/Box
MR854RL	Axial Lead	1200/Tape & Reel
MR856	Axial Lead	500 Units/Box
MR856RL	Axial Lead	1200/Tape & Reel

Preferred devices are recommended choices for future use and best overall value.

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## MAXIMUM RATINGS

Rating	Symbol	MR850	MR851	MR852	MR854	MR856	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	Volts
Non-Replicative Peak Reverse Voltage	$V_{RSM}$	75	150	250	450	650	Volts
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	Volts
Average Rectified Forward Current (Single phase resistive load, $T_A = 80^\circ\text{C}$ )	$I_O$	3.0					Amp
Non-Replicative Peak Surge Current (surge applied at rated load conditions)	$I_{FSM}$	100 (one cycle)					Amp
Operating and Storage Junction Temperature Range	$T_J$ , $T_{stg}$	- 65 to +125 - 65 to +150					$^\circ\text{C}$

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient (Recommended Printed Circuit Board Mounting)	$R_{\theta JA}$	28	$^\circ\text{C}/\text{W}$

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit	
Forward Voltage ( $I_F = 3.0$ Amp, $T_J = 25^\circ\text{C}$ )	$V_F$	-	1.04	1.25	Volts	
Reverse Current (rated dc voltage) $T_J = 25^\circ\text{C}$	$I_R$	-	2.0	10	$\mu\text{A}$	
$T_J = 80^\circ\text{C}$ {		MR850	-	-		150
		MR851	-	60		150
		MR852	-	-		200
		MR854	-	-		250
		MR856	-	100		300

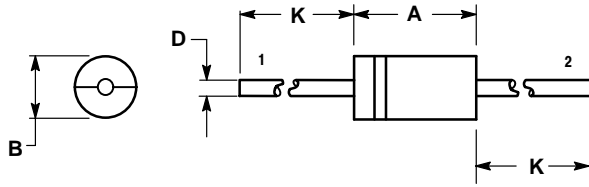
## REVERSE RECOVERY CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ( $I_F = 1.0$ Amp to $V_R = 30$ Vdc) ( $I_F = 15$ Amp, $di/dt = 10$ A/ $\mu\text{s}$ )	$t_{rr}$	-	100 150	200 300	ns
Reverse Recovery Current ( $I_F = 1.0$ Amp to $V_R = 30$ Vdc)	$I_{RM(REC)}$	-	-	2.0	Amp

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## PACKAGE DIMENSIONS

### AXIAL LEAD CASE 267-05 ISSUE G



#### NOTES:


1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.287	0.374	7.30	9.50
B	0.189	0.209	4.80	5.30
D	0.047	0.051	1.20	1.30
K	1.000	---	25.40	---

#### STYLE 1:

1. PIN 1. CATHODE (POLARITY BAND)
2. ANODE

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