New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

MR850, MR851, MR852, MR854, MR856

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 Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Available Tape and Reel, 1200 per Reel, by adding a "RL" Suffix to the Part Number
- Polarity: Cathode Indicated by Polarity Band

AXIAL LEAD
CASE 267
STYLE 1

Quality Semi-Conductors

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	V
Non−Repetitive Peak Reverse Voltage	V_{RSM}	75	150	250	450	650	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	V
Average Rectified Forward Current (Single phase resistive load, T_A = 80°C)	I_O	3.0					A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions)	I_{FSM}	100 (one cycle)					A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	− 65 to +125 − 65 to +150					°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

Characteristic		Symbol	Min	Typ	Max	Unit
Forward Voltage (I_F = 3.0 A, T_J = 25°C)		V_F	−	1.04	1.25	V
Reverse Current (rated DC voltage)	T_J = 25°C	I_R	−	2.0	10	μA
	T_J = 80°C MR850		−	−	150	
	T_J = 80°C MR851		−	60	150	
	T_J = 80°C MR852		−	−	200	
	T_J = 80°C MR854		−	−	250	
	T_J = 80°C MR856		−	100	300	

REVERSE RECOVERY CHARACTERISTICS

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