

**MR810 thru MR814**  
**MR816 thru MR818**

**Designers' Data Sheet**

**SUBMINIATURE SIZE, AXIAL LEAD MOUNTED  
FAST RECOVERY POWER RECTIFIERS**

... 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 200 nanoseconds providing high efficiency at frequencies to 250 kHz.

**DESIGNER'S DATA FOR "WORST CASE" CONDITIONS**

The Designer's Data Sheet permits the design of most circuits entirely from the information presented. Limit curves -- representing device characteristic boundaries -- are given to facilitate "worst case" design.

**MAXIMUM RATINGS**

Rating	Symbol	MR810	MR811	MR812	MR813	MR814	MR816	MR817	MR818	Unit
Peak Repetitive Reverse Voltage	VRRM									Volts
Working Peak Reverse Voltage	VRRM	50	100	200	300	400	600	800	1000	
DC Blocking Voltage	V <sub>R</sub>									Volts
Non-Repetitive Peak Reverse Voltage	VRSM	100	200	300	400	500	800	1000	1200	
RMS Reverse Voltage	V <sub>R</sub> (RMS)	35	70	140	210	280	420	560	700	Volts
Average Rectified Forward Current (single phase, resistive load, T <sub>A</sub> = 75°C)	I <sub>O</sub>	1.0								Amps
Non-Repetitive Peak Surge Current (surge applied at rated load conditions) (T <sub>A</sub> = 75°C)	I <sub>PSM</sub>	30								Amps
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150								°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +175								°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient (Typical Printed Circuit Board Mounting)	R <sub>θJA</sub>	65	°C/W

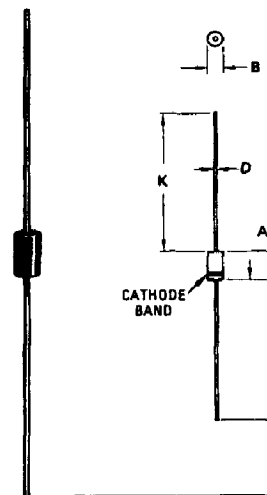
**ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Min	Typ	Max	Unit
Independent Forward Voltage (I <sub>F</sub> = 20 mA, T <sub>J</sub> = 150°C)	V <sub>F</sub>	-	1.1	1.2	Volts
Forward Voltage (I <sub>F</sub> = 1.0 Amp, T <sub>A</sub> = 25°C)	V <sub>F</sub>	-	1.0	1.1	Volts
Reverse Current (rated dc voltage) T <sub>A</sub> = 25°C	I <sub>R</sub>	-	1.0	10	μA
				50	
				100	

**REVERSE RECOVERY CHARACTERISTICS**

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time (I <sub>F</sub> = 1.0 Amp to V <sub>R</sub> = 30 Vdc) (Figure 21)	t <sub>rr</sub>	-	200	750	ns
(I <sub>F</sub> = 20 mA, I <sub>R</sub> = 2.0 mA, T <sub>stg</sub> = 5-Plug-In) (Figure 22)		-	1.0	3.0	μs
Reverse Recovery Current (I <sub>F</sub> = 1.0 Amp to V <sub>R</sub> = 30 Vdc) (Figure 21)	I <sub>RM</sub> (REC)	-	-	3.0	Amp

**FAST RECOVERY  
POWER RECTIFIERS**  
50-1000 VOLTS  
1 AMPERE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.70	5.20	0.185	0.205
B	2.54	2.71	0.100	0.107
D	0.76	0.86	0.030	0.034
K	27.94	-	1.100	-

CASE 59-01

CONFORMS TO D0-41

**MECHANICAL CHARACTERISTICS**

CASE: Void Free, Transfer Moulded

FINISH: External leads are plated and are readily solderable

POLARITY: Cathode indicated by Polarity band

WEIGHT: 0.4 Grams (Approximately)

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