

# 1N3889 THRU 1N3893

## 12 AMP

### FAST RECOVERY RECTIFIER

## 50-400 VOLTS



14830 Valley View Avenue  
La Mirada, California 90638  
(213) 921-9660  
TWX 910-583-4807  
FAX 213-921-2396

#### CASE STYLE



#### FEATURES

- FAST RECOVERY 100 NSEC MAX.
  - PIV TO 400 VOLTS
  - LOW REVERSE LEAKAGE
  - HERMETICALLY SEALED
  - SINGLE CHIP CONSTRUCTION
  - HIGH SURGE RATING 200 AMPS
  - LOW THERMAL RESISTANCE
- FOR REVERSE POLARITY ADD "R" TO PART NUMBER

#### MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Per Leg and DC Blocking Voltage Per Leg	1N3889	$V_{RM} (rep)$ $V_R$	50	Volts
	1N3890		100	
	1N3891		200	
	1N3892		300	
	1N3893		400	
RMS Reverse Voltage Per Leg	1N3889	$V_r$	35	Volts
	1N3890		70	
	1N3891		140	
	1N3892		210	
	1N3893		280	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$ )		$I_O$	12	Amps
Peak Repetitive Forward Current ( $T_C = 55^\circ C$ , 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		$I_{FM} (rep)$	60	Amps
Peak Surge Current ( $T_C = 55^\circ C$ , Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		$I_{FM} (surge)$	200	Amps
Operating and Storage Temperature		$T_J, T_{stg}$	-65 to +175	$^\circ C$

#### THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	$^\circ C/W$

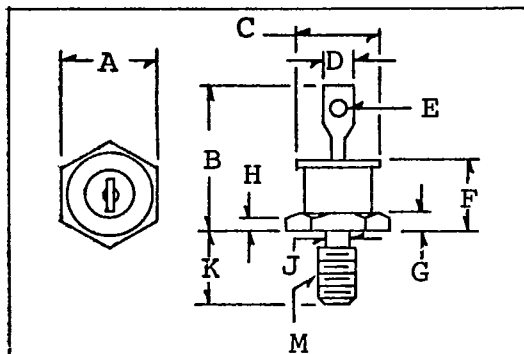
**ELECTRICAL CHARACTERISTICS**

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle, Per Leg ( $I_F$ (Max), 60 Hz. Square Wave, $T_C = 55^\circ\text{C}$ )	$V_{F(AV)}$	---	Vdc
Max Instantaneous Forward Drop Per Leg ( $I_F = 12$ Adc, $T_C = 25^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse) ( $I_F = 38$ Adc, $T_C = 150^\circ$ , 300 $\mu\text{s}$ Pulse)	$V_F$	1.4 1.5	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle, Per Leg (Rated $V_R$ , 60Hz, Square Wave, $T_C = 100^\circ\text{C}$ )	$I_{R(AV)}$	3	mA
Max Reverse Leakage Current Per Leg (Rated $V_R$ , $T_C = 25^\circ\text{C}$ )	$I_R$	.025	mA
Max Junction Capacitance Per Leg. ( $V_R = 10$ V, $T_C = 25^\circ\text{C}$ )	$C_J$	100	pf

**REVERSE RECOVERY CHARACTERISTICS**

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ( $I_F = 1.0$ Amp to $V_R = 30$ Vdc.)	$t_{rr}$	---	100	200	ns

**PHYSICAL DIMENSIONS**



**KEY TO DIMENSIONS:**

(Inches)

- A = .424 - .437
- B = .800 MAX.
- C = .424 MAX.
- D = .250 MAX.
- E = .060 MIN.
- F = .405 MAX.
- G = .075 - .175
- H = .060 MIN.
- J = .163 - .189
- K = .422 - .453
- M = 10-32 UNF-2A

**TYPICAL OPERATING CURVES**

