

1N3909 THRU 1N3913

30 AMPS

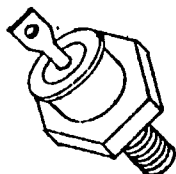
FAST RECOVERY RECTIFIER

50-400 VOLTS



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CASE STYLE J (JEDEC DO-5)



FEATURES

- FAST RECOVERY 200 NSEC MAX
- PIV TO 400 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- HIGH SURGE RATING 300 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	V_{RM} (rep) V_R		Volts
1N3909		50	
1N3910		100	
1N3911		200	
1N3912		300	
1N3913		400	
RMS Reverse Voltage Per Leg	V_r		Volts
1N3909		35	
1N3910		70	
1N3911		140	
1N3912		210	
1N3913		280	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ\text{C}$)	I_O	30	Amps
Peak Repetitive Forward Current ($T_C = 55^\circ\text{C}$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)	I_{FM} (rep)	90	Amps
Peak Surge Current ($T_C = 55^\circ\text{C}$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)	I_{FM} (surge)	300	Amps
Operating and Storage Temperature	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.2	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

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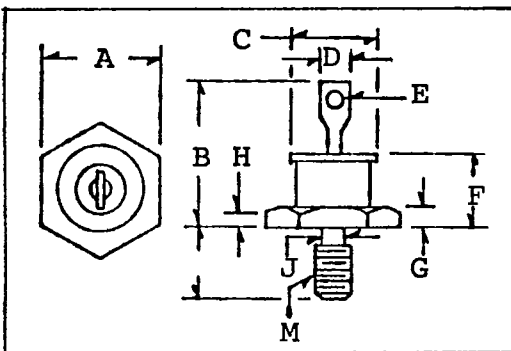
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Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle, Per Leg (I_O (Max), 60 Hz. Square Wave, $T_C = 55^\circ\text{C}$)	$V_{F(AV)}$	---	Vdc
Max Instantaneous Forward Drop Per Leg ($I_F = 30$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse) ($I_F = 93$ Adc, $T_C = 150^\circ\text{C}$, 300 μs 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, $T_C = 100^\circ\text{C}$)	$I_{R(AV)}$	10	mA
Max Reverse Leakage Current Per Leg (Rated V_R , $T_C = 25^\circ\text{C}$)	I_R	80	μAdc
Max Junction Capacitance Per Leg ($V_R = 10$ V, $T_C = 25^\circ\text{C}$)	C_J	200	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$) ($I_F = 1.0$ Amp to $V_R = 30$ Vdc.)	t_{rr}	---	100	200	ns

PHYSICAL DIMENSIONS



KEY TO DIMENSIONS:

(Inches)

- A = .667 - .687
- B = 1.00 MAX.
- C = .667 MAX.
- D = .375 MAX.
- E = .140 - .175
- F = .450 MAX.
- G = .115 - .200
- H = .060 MIN.
- J = .220 - .249
- K = .422 - .453
- M = $\frac{1}{4}$ -28 UNF-2A
- N =

TYPICAL OPERATING CURVES

FIGURE 1 - FORWARD VOLTAGE

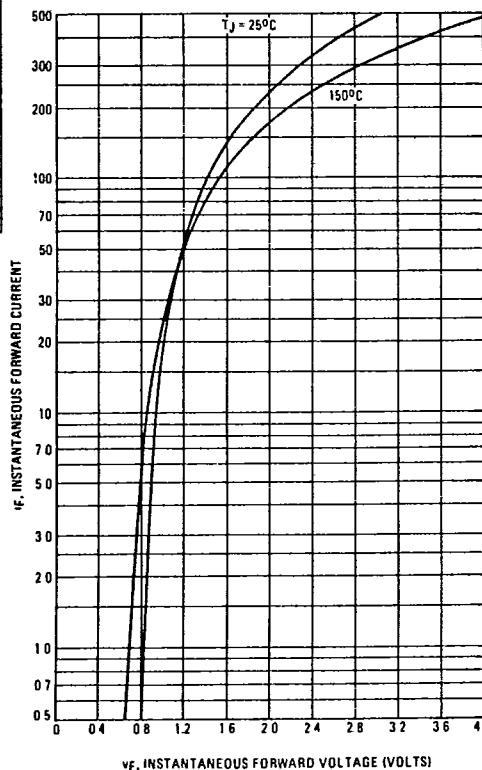
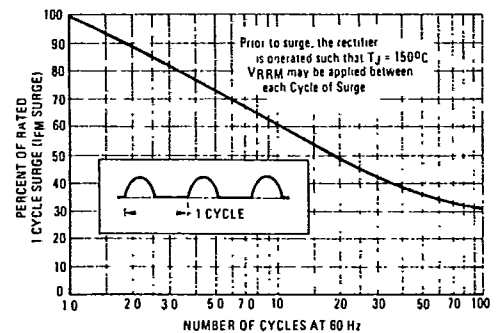


FIGURE 2 - MAXIMUM SURGE CAPABILITY



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