



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

**1N3909
 Thru
 1N3913**

Designer's Data Sheet

Part Number/Ordering Information^{1/}
 1N3909

Screening^{2/} = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Pin Configuration = Normal (Cathode to Stud)
 (See Table 1) R = Reverse (Anode to Stud)

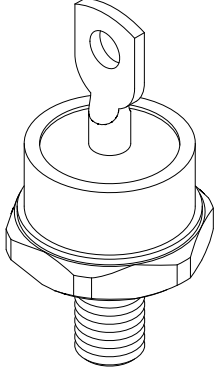
Family/Voltage 1N3909 = 50V
 1N3910 = 100V
 1N3911 = 200V
 1N3912 = 300V
 1N3913 = 400V

**30A, 200nsec, 50-400 V
 Fast Recovery Rectifier**

- Features:**
- **Fast Recovery: 200nsec Maximum (100nsec typ.)**^{3/}
 - **Low Reverse Leakage Current**
 - **Single Chip Construction**
 - **PIV to 400V, Higher Voltages Available**
 - **Hermetically Sealed Isolated Package**
 - **High Surge Rating**
 - **TX, TXV, and S-Level Screening Available**^{2/}

Maximum Ratings ^{4/}	Symbol	Value	Units
Peak Repetitive Reverse Voltage	1N3909	50	Volts
	1N3910	V_{RRM} 100	
	1N3911	V_{RWM} 200	
	1N3912	V_R 300	
	1N3913	400	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ C$)	I_o	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$, per leg)	I_{FSM}	300	Amps
Operating & Storage Temperature	T_{OP}	-55 to +150	°C
	T_{STG}	-65 to +175	
Maximum Total Thermal Resistance Junction to Case	R_{θJC}	1.2	°C/W

DO-5:



- Notes:**
- 1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.
 - 2/ Screened to MIL-PRF-19500.
 - 3/ Recovery Conditions: $I_F = 500\text{ mA}$, $I_R = 1\text{ Amp}$, $I_{RR} = 250\text{ mA}$.
 - 4/ Unless Otherwise Specified, All Maximum Ratings/Electrical Characteristics @25°C.



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638

Phone: (562) 404-4474 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

**1N3909
Thru
1N3913**

Electrical Characteristics (per leg) ^{4/}		Symbol	Max	Units
Maximum Instantaneous Forward Voltage Drop (Pulsed)	$I_F = 30A, T_A = 25\text{ }^\circ\text{C}$	V_{F1}	1.40	V_{DC}
	$I_F = 30A, T_A = -55\text{ }^\circ\text{C}$	V_{F2}	1.50	
Maximum Reverse Leakage Current (Rated V_R Minimum)	$T_A = 25\text{ }^\circ\text{C}$	I_{R1}	80	μA
	$T_A = 100\text{ }^\circ\text{C}$	I_{R2}	10	mA
Maximum Reverse Recovery Time ($I_F = 500\text{ mA}, I_R = 1\text{ Amp}, I_{RR} = 250\text{ mA}$)		t_{RR}	200	nsec
Typical Junction Capacitance ($V_R = 10V_{DC}, T_A = 25^\circ\text{C}, f = 1\text{MHz}$)		C_J	200	pF

Notes:

1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.

2/ Screened to MIL-PRF-19500.

3/ Recovery Conditions: $I_F = 500\text{ mA}, I_R = 1\text{ Amp}, I_{RR} = 250\text{ mA}$.

4/ Unless Specified Otherwise, All Maximum Ratings/Electrical Characteristics are @25°C.

Code	Configuration	Terminal	Stud
—	Normal	Anode	Cathode
R	Reverse	Cathode	Anode

