



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

SDR937/61
 thru
SDR9312/61

30 Amp
ULTRA FAST RECTIFIER
 700 – 1200 Volt
 60 nsec

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR93

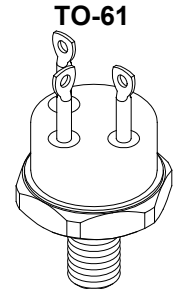
- Screening ^{2/}
 - = Not Screened
 - TX = TX Level
 - TXV = TXV Level
 - S = S Level
- Package
 - /61 = TO-61
- Family/Voltage
 - 7 = 700V
 - 8 = 800V
 - 9 = 900V
 - 10 = 1000V
 - 11 = 1100V
 - 12 = 1200V

- Features:**
- Soft recovery diode
 - Ultra fast recovery: 60 nsec maximum
 - Available with faster recovery
 - High surge rating
 - Low reverse leakage current
 - Low junction capacitance
 - Hermetically sealed package
 - Gold eutectic die attach available
 - Ultrasonic aluminum wire bonds
 - TX, TXV, and S-level screening available – Contact factory ^{2/}

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR937	700	Volts
	SDR938	800	
	SDR939	900	
	SDR9310	1000	
	SDR9311	1100	
	SDR9312	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25°C)	I_o	30	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T _A = 25°C)	I_{FSM}	450	Amps
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +200	°C
Maximum Thermal Resistance Junction to Case	R_{θJC}	1.3	°C/W

Notes:

- 1/ For ordering information, price, operating curves, and availability - contact factory.
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.





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Electrical Characteristics		Symbol	Typical	Maximum	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μs pulse)	$I_F = 15A_{DC}$	V_{F1}	2.0	2.2	V_{DC}
	$I_F = 30A_{DC}$	V_{F2}	2.2	2.4	
Instantaneous Forward Voltage Drop ($T_A = 125^\circ\text{C}$, 300 μs pulse)	$I_F = 15A_{DC}$	V_{F3}	1.5	1.6	V_{DC}
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300 μs pulse)	$I_F = 15A_{DC}$	V_{F4}	2.1	2.3	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)		I_{R1}	20	100	μA
Reverse Leakage Current (Rated V_R , $T_A = 125^\circ\text{C}$, 300 μs pulse minimum)		I_{R2}	10	25	mA
Junction Capacitance ($T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	$V_R = 10V_{DC}$	C_J	70	100	pf
Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1\text{Amp}$, $I_{RR} = 250\text{mA}$, $T_A = 25^\circ\text{C}$) ($I_F = 10\text{A}$, $di_F/dt = 100\text{A}/\mu\text{s}$)		t_{RR1}	45	60	nsec
		t_{RR2}	60	100	

