



**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

**SDR620/59  
 SDR621/59  
 SDR622/59**

**20 AMPS  
 100 - 200 VOLTS  
 ULTRA FAST RECOVERY  
 RECTIFIER**

- FEATURES:**
- Isolated Package
  - Reverse Recovery Time 35 ns Max
  - PIV 200 Volts
  - Low Reverse Leakage
  - Hermetically Sealed
  - Single Chip Construction
  - -65°C to 200°C Operating and Storage Temperature
  - Isolated Version of 1N5812-16 DO-4
  - TX, TXV, and S-Level Screening Available <sup>2/</sup>

**Designer's Data Sheet**

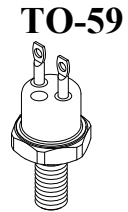
**Part Number / Ordering Information** <sup>1/</sup>

**SDR62**

- └─ Screening <sup>2/</sup>
  - ─ = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- └─ Package
  - 59 = TO-59
- └─ Voltage
  - 0 = 100 V
  - 1 = 150 V
  - 2 = 200 V

<b>MAXIMUM RATINGS</b> <sup>3/</sup>		<b>Symbol</b>	<b>Value</b>	<b>Units</b>
<b>Peak Repetitive Reverse Voltage and DC Blocking Voltage</b>	SDR620	$V_{RRM}$ $V_R$	100	<b>Volts</b>
	SDR621		150	
	SDR622		200	
<b>Half Wave Rectified Forward Current, Averaged Over Full Cycle</b> Resistive Load, 60 Hz, Sine Wave, T <sub>C</sub> = 55°C		<b>I<sub>O</sub></b>	20	<b>Amps</b>
<b>Peak Repetitive Forward Current</b> 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses		<b>I<sub>FRM</sub></b>	80	<b>Amps</b>
<b>Peak Surge Current</b> 8.3 ms Pulse		<b>I<sub>FSM</sub></b>	200	<b>Amps</b>
<b>Thermal Resistance</b> Junction to Case		<b>R<sub>θJC</sub></b>	1.5	<b>°C/W</b>
<b>Operating and Storage Temperature</b>		<b>T<sub>J</sub> &amp; T<sub>stg</sub></b>	-65 to +200	<b>°C</b>

<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.  
<sup>2/</sup> Screened to MIL-PRF-19500.  
<sup>3/</sup> Unless Otherwise Specified, All Electrical Characteristics @ 25°C.





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**SDR620/59**  
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**SDR622/59**

ELECTRICAL CHARACTERISTICS <sup>1/</sup>		Symbol	Minimum	Maximum	Unit
<b>Instantaneous Forward Voltage Drop</b> 300 – 500 $\mu$ s Pulse	$I_F = 10A$	$V_{F1}$	–	1.2	$V_{DC}$
	$I_F = 20A$	$V_{F2}$	–	1.5	
<b>Instantaneous Forward Voltage Drop</b> $I_F = 10 A$ , 300 – 500 $\mu$ s Pulse	$T_A = 100^\circ C$	$V_{F3}$	–	1.15	$V_{DC}$
	$T_A = -55^\circ C$	$V_{F4}$	–	1.25	
<b>Reverse Leakage Current</b> Rated $V_R$ , 300 $\mu$ s Pulse min.	$T_A = 25^\circ C$	$I_{R1}$	–	10	$\mu A$
	$T_C = 100^\circ C$	$I_{R2}$	–	1.0	<b>mA</b>
<b>Junction Capacitance</b> $V_R = 10 V_{DC}$ , $f = 1 MHz$		$C_J$	–	225	<b>pF</b>
<b>Reverse Recovery Time</b> $I_F = 0.5 A$ , $I_R = 1.0 A$ , $I_{RR} = 0.25 A$		$t_{RR}$	–	35	<b>nsec</b>

**NOTES:**

- 1/ Unless Otherwise Specified, All Electrical Characteristics @ 25°C
- 2/ For information on curves, contact the Factory Representative for Engineering Assistance.

**PACKAGE OUTLINE: TO-59 2 PIN**

**PIN OUT:**  
**PIN 1: ANODE**  
**PIN 3: CATHODE**