



# 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

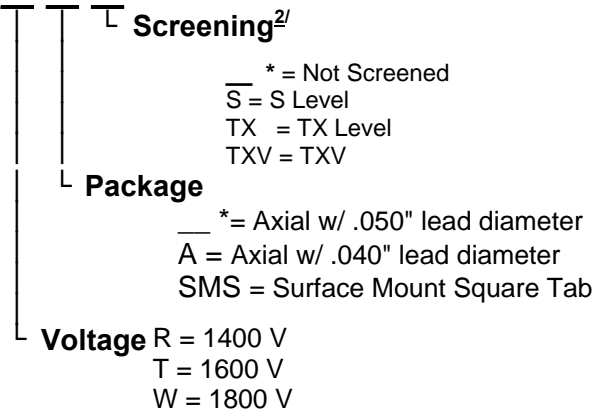
## SDR6W series

**6A 5 μsec**  
**1400 to 1800 V**  
**Standard Recovery Rectifier**

### DESIGNER'S DATA SHEET

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

SDR6 \*



#### Features:

- Standard Recovery: 5 usec Maximum
- High Surge Rating: 75 Amps @ 8.3 mS and 500A @ 100 μS
- Low Reverse Leakage Current: 5 μA
- Low Junction Capacitance: 40 pF
- Low Thermal Resistance: 8 - 12 °C/W
- Single Chip Construction
- Available in Fast and Ultra Fast Speeds. Consult Factory.
- TX, TXV, and S Level Screening<sup>2/</sup>

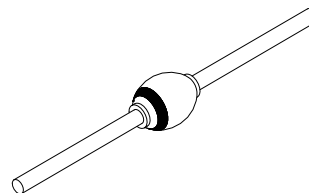
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage	SDR6R SDR6T SDR6W	V <sub>RRM</sub>	1400 1600 1800	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)	T <sub>L</sub> @ 1/8" = 25 °C max T <sub>TAB</sub> = 55 °C max	I <sub>o</sub>	6	Amps
Peak Surge Current <sup>3/</sup> (8.3 ms Pulse, Half Sine Wave)	T <sub>L</sub> @ 1/8" = 25 °C max T <sub>TAB</sub> = 55 °C max	I <sub>FSM</sub>	75	Amps
Operating & Storage Temperature		T <sub>OP</sub> & T <sub>STG</sub>	-65 to +175	°C
Maximum Total Thermal Resistance	Axial @ 1/8 " SMS	R <sub>θJL</sub>	12 8	°C/W

<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

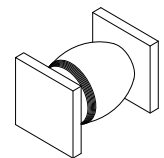
<sup>2/</sup> Screening Based on MIL-PRF-19500. Screening Flow Available on Request.

<sup>3/</sup> Surge rated at 500A maximum, pulse width = 100 μsec.

**Axial**



**Surface Mount Square Tab (SMS)**



**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RC0094B**

**DOC**



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**SDR6W series**

Electrical Characteristics		Symbol	Min	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 6A$ , 300 – 500 $\mu$ sec Pulse)	$T_A = 25^\circ C$	$V_{F1}$	—	1.10	1.25	$V_{DC}$
	$T_A = -55^\circ C$	$V_{F2}$	—	1.20	1.40	
<b>Reverse Leakage Current</b> (100% of rated $V_R$ , 300 $\mu$ s pulse min.)	$T_A = 25^\circ C$	$I_{R1}$	—	1.0	5.0	$\mu A$
	$T_A = 100^\circ C$	$I_{R2}$	—	10	50	
<b>Reverse Recovery Time</b> ( $I_F = 0.5A$ , $I_R = 1A$ , $I_{RR} = 0.25A$ , $T_A = 25^\circ C$ )	$T_A = 25^\circ C$	$t_{RR}$	—	1.5	5	$\mu$ sec
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )	$T_A = 25^\circ C$	$C_J$	—	22	40	pF

*Available Part Numbers:	<b>SDR6W</b>	<b>SDR6WA</b>	<b>SDR6WSMS</b>
	<b>SDR6T</b>	<b>SDR6TA</b>	<b>SDR6TSMS</b>
	<b>SDR6R</b>	<b>SDR6RA</b>	<b>SDR6RSMS</b>

**Case Outline: (Axial)**

DIM	MIN	MAX
<b>A</b>	—	0.168"
<b>B</b>	0.135"	0.156"
<b>C (std)</b>	0.047"	0.053"
<b>C (A outline)</b>	0.037"	0.043"
<b>D</b>	1.00"	—

**Case Outline: (SMS)**

DIM	MIN	MAX
<b>A</b>	0.173"	0.177"
<b>B</b>	0.180"	0.210"
<b>C</b>	0.022"	0.028"
<b>D</b>	0.002"	—

Note: Dimensions prior to soldering.