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 [1/]

SDR6 *

Screening[2/]
- __ * = Not Screened
- S = S Level
- TX = TX Level
- TXV = TXV

Package
- __ *= Axial w/ .050" lead diameter
- A = Axial w/ .040" lead diameter
- SMS = Surface Mount Square Tab

Voltage
- R = 1400 V
- T = 1600 V
- W = 1800 V

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 ºC/W**
- **Single Chip Construction**
- **Available in Fast and Ultra Fast Speeds. Consult Factory.**
- **TX, TXV, and S Level Screening**[2/]

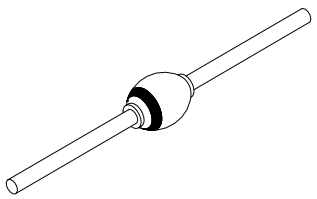
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage	**SDR6R** **SDR6T** **SDR6W**	V_{RRM}	1400 1600 1800	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)	T_L @ 1/8" = 25 °C max T_{TAB} = 55 °C max	**Io**	6	**Amps**
Peak Surge Current [3/] (8.3 ms Pulse, Half Sine Wave)	T_L @ 1/8" = 25 °C max T_{TAB} = 55 °C max	I_{FSM}	75	**Amps**
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +175	**ºC**
Maximum Total Thermal Resistance	Axial @ 1/8 " SMS	$R_{\theta JL}$	12 8	**ºC/W**

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

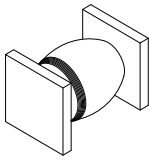
2/ Screening Based on MIL-PRF-19500. Screening Flow Available on Request.

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

Axial



Surface Mount Square Tab (SMS)



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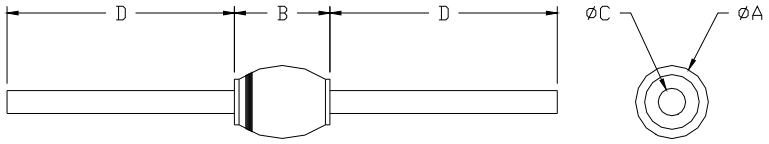
SDR6W series

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

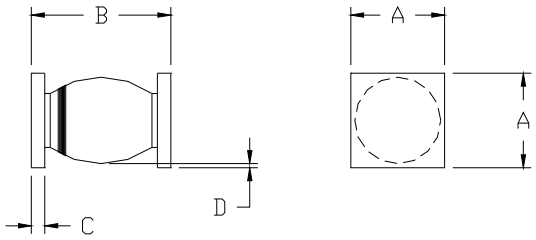
*Available Part Numbers:			
	SDR6W	**SDR6WA**	**SDR6WSMS**
	SDR6T	**SDR6TA**	**SDR6TSMS**
	SDR6R	**SDR6RA**	**SDR6RSMS**

Case Outline: (Axial)



DIM	MIN	MAX
A	—	0.168”
B	0.135”	0.156”
C (std)	0.047”	0.053”
C (A outline)	0.037”	0.043”
D	1.00”	—

Case Outline: (SMS)



DIM	MIN	MAX
A	0.173”	0.177”
B	0.180”	0.210”
C	0.022”	0.028”
D	0.002”	—

Note: Dimensions prior to soldering.