



## Solid State Devices, Inc.

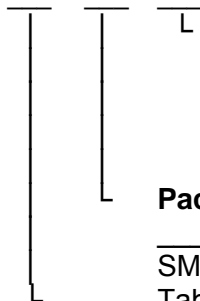
14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

## SDR12 Series

### Designer's Data Sheet

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

SDR12



#### Screening <sup>2/</sup>

— = Not Screened

TX = TX Level

TXV = TXV

S = S Level

#### Package Type

— = Axial

SMS = Surface Mount Square Tab

#### Family/Voltage

D = 200 V

G = 400V

J = 600 V

K = 800 V

M = 1000 V

**12 AMPS**  
**200 - 1000 VOLTS**  
**5  $\mu$ sec**  
**STANDARD RECOVERY**  
**RECTIFIER**

#### FEATURES:

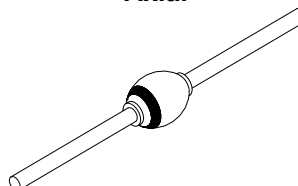
- Standard Recovery: 5  $\mu$ sec maximum
- PIV up to 1000 Volts
- High Current Operation up to 12 A
- Hermetically Sealed
- Single Chip Construction
- Low Thermal Resistance
- TX, TXV, and Space Level Screening Available<sup>2/</sup>
- Fast and Ultrafast Recovery Versions Available. Contact Factory.

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SDR12D	$V_{RRM}$ $V_{RWM}$ $V_R$	200	Volts
	SDR12G		400	
	SDR12J		600	
	SDR12K		800	
	SDR12M		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A \leq 55^\circ\text{C}$ )		$I_O$	12	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Superimposed on $I_O$ , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$ )		$I_{FSM}$	150	Amps
Operating and Storage Temperature		$T_{OP} \text{ \& } T_{stg}$	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Lead, $L = 0.125"$ (Axial Lead) Junction to End Tab (Surface Mount)		$R_{\theta JL}$ $R_{\theta JE}$	6 4	$^\circ\text{C/W}$

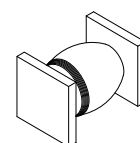
<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability-Contact Factory.

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

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 #: RC0091C

DOC



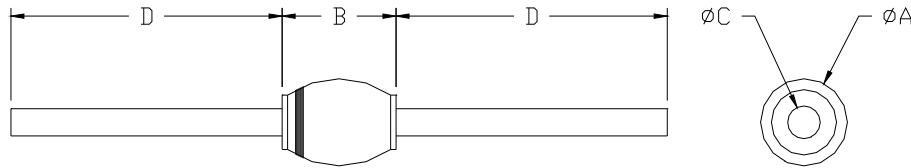
## Solid State Devices, Inc.

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

# SDR12 Series

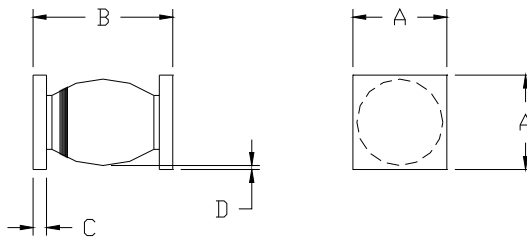
ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 12$ Amps, $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse)	$T_A = 25^\circ\text{C}$	$V_{F1}$	—	1.30	Volts
	$T_A = -55^\circ\text{C}$	$V_{F2}$	—	1.50	Volts
<b>Reverse Leakage Current</b> (At Rated $V_R$ , 300 $\mu\text{sec}$ pulse minimum)	$T_A = 25^\circ\text{C}$	$I_{R1}$	---	5.0	$\mu\text{A}$
	$T_A = 100^\circ\text{C}$	$I_{R2}$	—	200	$\mu\text{A}$
<b>Junction Capacitance</b> ( $V_R = 10$ V <sub>DC</sub> , $T_A = 25^\circ\text{C}$ , $f = 1$ MHz)		$C_J$	—	80	pF
<b>Reverse Recovery Time</b> ( $I_F = 500$ mA, $I_R = 1$ A, $I_{RR} = 250$ mA, $T_A = 25^\circ\text{C}$ )		$t_{rr}$	—	5	$\mu\text{s}$

### Case Outline: (Axial)



DIM	MIN	MAX
A	—	0.190"
B	0.140"	0.180"
C	0.057"	0.063"
D	0.500"	—

### Case Outline: (SMS)



DIM	MIN	MAX
A	0.195"	0.210"
B	0.190"	0.230"
C	0.020"	0.030"
D	0.002"	—

Note: Dimensions prior to soldering.

### NOTES:

Consult manufacturing for operating curves.

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

**DATA SHEET #: RC0091C**

**DOC**