



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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## SDR1D thru SDR1N

**1.0 AMPS**  
**200 – 1200 VOLTS**  
**50 – 80 nsec ULTRA FAST RECTIFIER**

### Designer's Data Sheet

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

**SDR1** — — —

- L Screening <sup>2/</sup>**
  - = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- Package Type**
  - = Axial Leaded
- Family**

D = 200V	K = 800V
G = 400V	M = 1000V
J = 600V	N = 1200V

- FEATURES:**
- **Ultra Fast Recovery:** 50-80 ns Max @ 25°C <sup>4/</sup>  
80-130 ns Max @ 100°C <sup>4/</sup>
  - **Single Chip Construction**
  - **PIV to 1200 Volts**
  - **Low Reverse Leakage Current**
  - **Hermetically Sealed**
  - **For High Efficiency Applications**
  - **Metallurgically Bonded**
  - **TX, TXV, and S-Level Screening Available**
  - **Available in Surface Mount (SM) and Square Tab Surface Mount (SMS) Versions (Ref. RU0003)**
  - **Hyper Fast Version available (Ref. RH0119)**

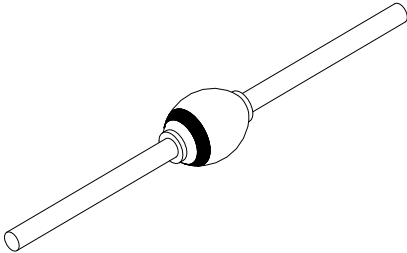
### MAXIMUM RATINGS <sup>3/</sup>

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR1D	$V_{RRM}$ $V_{RWM}$ $V_R$	200	Volts
	SDR1G		400	
	SDR1J		600	
	SDR1K		800	
	SDR1M		1000	
	SDR1N		1200	
Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T <sub>A</sub> = 25°C)		$I_O$	1	Amp
Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on I <sub>O</sub> , allow junction to reach equilibrium between pulses, T <sub>A</sub> = 25°C)		$I_{FSM}$	25	Amps
Operating & Storage Temperature		<b>T<sub>OP</sub> and T<sub>STG</sub></b>	-65 to +175	°C
Thermal Resistance, Junction to Lead, L = 3/8"		<b>R<sub>θJL</sub></b>	35	°C/W

#### NOTES:

- 1/** For Ordering Information, Price, and Availability- Contact Factory.
- 2/** Screened to MIL-PRF-19500.
- 3/** Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/** Recovery Conditions: I<sub>F</sub> = 0.5 Amp, I<sub>R</sub> = 1.0 Amp, I<sub>RR</sub> to .25 Amp.

**Axial Leaded**





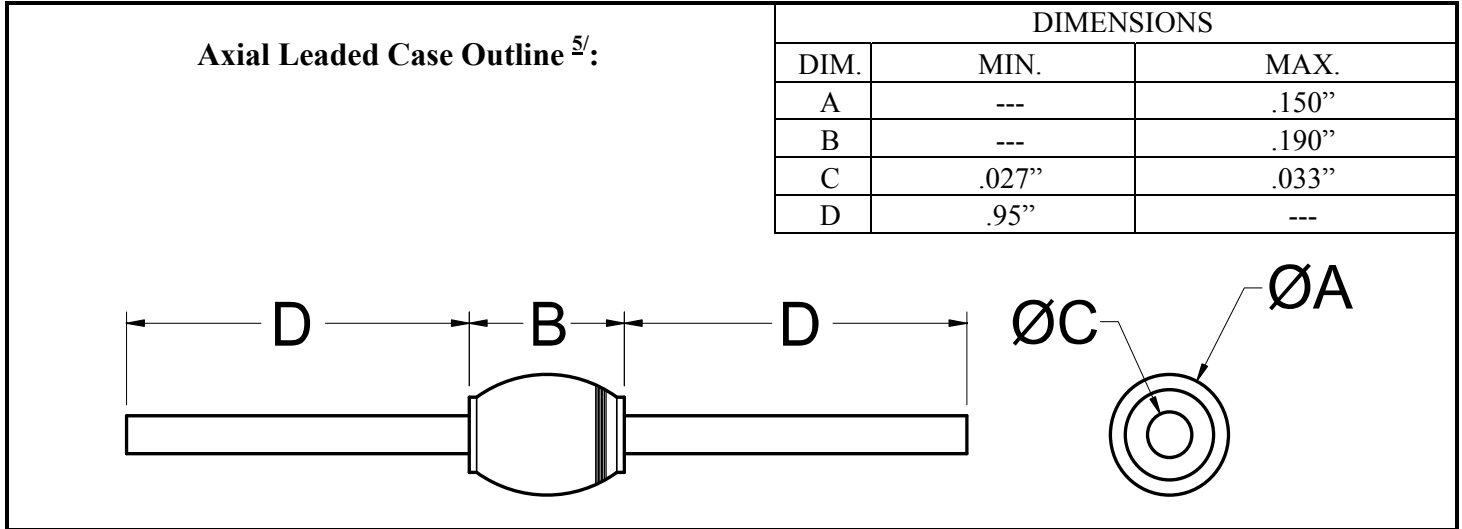
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**SDR1D  
 thru  
 SDR1N**

**ELECTRICAL CHARACTERISTICS <sup>3/</sup>**

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ( $I_F = 1\text{A}_{dc}$ , 300- 500 $\mu\text{s}$ Pulse, $T_A = 25^\circ\text{C}$ )	SDR1D thru SDR1J	$V_{F1}$	1.70	Vdc
	SDR1K thru SDR1N		1.90	
Instantaneous Forward Voltage Drop ( $I_F = 1\text{A}_{dc}$ , 300- 500 $\mu\text{s}$ Pulse, $T_A = -55^\circ\text{C}$ )	SDR1D thru SDR1J	$V_{F2}$	2.10	Vdc
	SDR1K thru SDR1N		2.30	
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu\text{s}$ Pulse Minimum , $T_A = 25^\circ\text{C}$ )		$I_{R1}$	5	$\mu\text{A}$
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu\text{s}$ Pulse Minimum , $T_A = 100^\circ\text{C}$ )		$I_{R2}$	500	$\mu\text{A}$
Junction Capacitance ( $V_R = 10\text{V}_{dc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )		$C_J$	24	pf
Maximum Reverse Recovery Time <sup>4/</sup>	SDR1D thru SDR1J	$t_{rr}$	50	ns
	SDR1K		60	
	SDR1M		70	
	SDR1N		80	



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- 3/** Unless Otherwise Specified, All Electrical Characteristics @25°C.

- 4/** Recovery Conditions:  $I_F = 0.5\text{ Amp}$ ,  $I_R = 1.0\text{ Amp}$ ,  $I_{RR}$  to .25 Amp.
- 5/** For information on operating curves, contact factory.