



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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**SDR3A and SDR3ASMS  
 thru  
 SDR3N and SDR3NSMS**

**3.0 AMPS  
 50 – 1200 VOLTS  
 50 – 80 nsec ULTRA FAST RECTIFIER**

**Designer's Data Sheet**

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

**SDR3** — — —

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

A = 50 V	J = 600V
B = 100V	K = 800V
D = 200V	M = 1000V
G = 400V	N = 1200V

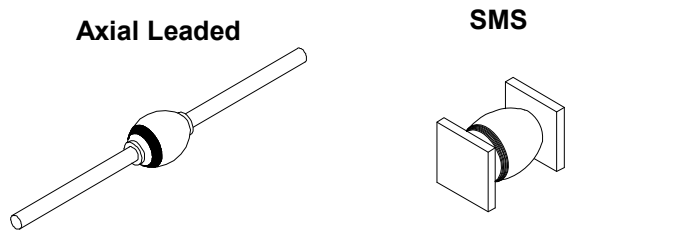
- FEATURES:**
- **Ultra Fast Recovery:** 50-80 ns Max @ 25°C <sup>4/</sup>  
85-125 ns Max @ 100°C <sup>4/</sup>
  - **Single Chip Construction**
  - **PIV to 1200 Volts**
  - **Low Reverse Leakage Current**
  - **Hermetically Sealed**
  - **For High Efficiency Applications**
  - **Available in Axial and Surface Mount Versions**
  - **Metallurgically Bonded**
  - **TX, TXV, and S-Level Screening Available <sup>2/</sup>**

**MAXIMUM RATINGS <sup>3/</sup>**

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50 100 200 400 600 800 1000 1200	Volts
Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ C$ )	$I_O$	3	Amp
Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on $I_O$ , allow junction to reach equilibrium between pulses, $T_A = 25^\circ C$ )	$I_{FSM}$	75	Amps
Operating & Storage Temperature	$T_{OP}$ and $T_{STG}$	-65 to +175	°C
Thermal Resistance, Junction to Lead, L = 3/8"	$R_{\theta JL}$	20	°C/W
Junction to End Tab	$R_{\theta JE}$	14	

**NOTES:**

- 1/ For Ordering Information, Price, and Availability- Contact Factory.
- 2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ Recovery Conditions:  $I_F = 0.5$  Amp,  $I_R = 1.0$  Amp,  $I_{RR}$  to .25 Amp.
- 5/ For information on operating curves, contact factory.





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

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ( $I_F = 3A_{dc}$ , 300- 500 $\mu s$ Pulse, $T_A = 25^\circ C$ )	SDR3A thru SDR3J SDR3K thru SDR3N	$V_{F1}$	1.35 1.90	Vdc
Instantaneous Forward Voltage Drop ( $I_F = 3A_{dc}$ , 300- 500 $\mu s$ Pulse, $T_A = -55^\circ C$ )	SDR3A thru SDR3J SDR3K thru SDR3N	$V_{F2}$	1.50 2.10	Vdc
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu s$ Pulse Minimum , $T_A = 25^\circ C$ )		$I_{R1}$	5	$\mu A$
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu s$ Pulse Minimum , $T_A = 100^\circ C$ )		$I_{R2}$	500	$\mu A$
Junction Capacitance ( $V_R = 10V_{dc}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )		$C_J$	50	pf
Maximum Reverse Recovery Time <sup>4/</sup>	SDR3A thru SDR3J SDR3K SDR3M SDR3N	$t_{rr}$	50 60 70 80	ns

Axial Leaded Case Outline <sup>5/</sup> :	DIMENSIONS			Square Tab Surface Mount Case Outline <sup>5/</sup> :	DIMENSIONS		
	DIM.	MIN.	MAX.		DIM.	MIN.	MAX.
	A	.120"	.180"		A	.172"	.180"
	B	---	.230"		B	.180"	.280"
	C	.047"	.053"		C	.022"	.028"
	D	1.00"	---		D	.002"	---