



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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## SDR3KHF & SDR3KHFSMS thru SDR3NHF & SDR3NHFSMS

**3 AMP  
800 - 1200 V  
35 nsec  
Hyper Fast Rectifier**

**DESIGNER'S DATA SHEET**

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

**SDR3      HF**

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**Screening <sup>2/</sup>**  
 \_\_\_ = Not Screened  
 TX = TX Level  
 TXV = TXV  
 S = S Level

**Package Type**  
 \_\_\_ = Axial  
 SMS = Surface Mount Square Tab

**Family/Voltage**  
 K = 800 V  
 M = 1000 V  
 N = 1200 V

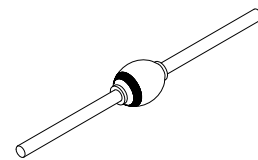
- Features:**
- Hyper Fast Recovery: 35 nsec maximum
  - PIV to 1200 Volts
  - Hermetically Sealed
  - Void Free Construction
  - For High Efficiency Applications
  - Single Chip Construction
  - Low Reverse Leakage
  - TX, TXV, S Level screening Available<sup>2/</sup>

Maximum Ratings		Symbol	Value	Units
<b>Peak Repetitive Reverse and DC Blocking Voltage</b>	<b>SDR3KHF</b>	$V_{RRM}$	800	Volts
	<b>SDR3MHF</b>	$V_{RSM}$	1000	
	<b>SDR3NHF</b>	$V_R$	1200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 hz Sine Wave, $T_L = 25^\circ C$ )		$I_O$	3.0	Amps
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, $T_L = 25^\circ C$ )		$I_{FSM}$	70	Amps
<b>Operating &amp; Storage Temperature</b>		$T_{OP}$ & $T_{STG}$	-65 to +175	$^\circ C$
<b>Maximum Thermal Resistance</b>	Junction to Leads, L = 1/4"	$R_{\theta JE}$	16	$^\circ C/W$
	Junction to Tabs		12	

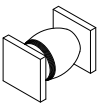
<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

**Axial Lead Diode**



**SMS**





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**SDR3DHF & SDR3DHFSMS  
 thru  
 SDR3NHF & SDR3NHFSMS**

Electrical Characteristic		Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $T_A = 25^\circ\text{C}$ , pulsed)	$I_F = 1\text{A}$	$V_{F1}$	1.9	$V_{DC}$
	$I_F = 3\text{A}$	$V_{F2}$	3.1	
<b>Instantaneous Forward Voltage Drop</b> ( $T_A = -55^\circ\text{C}$ , pulsed)	$I_F = 1\text{A}$	$V_{F3}$	2.0	$V_{DC}$
	$I_F = 3\text{A}$	$V_{F4}$	3.2	
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 25^\circ\text{C}$ , pulsed)		$I_{R1}$	10	$\mu\text{A}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 100^\circ\text{C}$ , pulsed)		$I_{R2}$	300	$\mu\text{A}$
<b>Reverse Recovery Time</b> ( $I_F = 500\text{mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 250\text{mA}$ , $T_A = 25^\circ\text{C}$ )		$t_{RR}$	35	nsec
<b>Junction Capacitance</b> ( $V_R = 10V_{DC}$ , $f = 1\text{MHz}$ , $T_A = 25^\circ\text{C}$ )		$C_J$	30	pF

**Case Outline: (Axial)**

DIM	MIN	MAX
A	—	0.165"
B	—	0.220"
C	0.047"	0.053"
D	0.950"	—

**Case Outline: (SMS)**

DIM	MIN	MAX
A	0.172"	0.180"
B	0.180"	0.280"
C	0.022"	0.028"
D	0.002"	--