



**Solid State Devices, Inc.**

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**SDR1AHF & SDR1AHFSMS  
 thru  
 SDR1NHF & SDR1NHFSMS**

**1 AMPS, 50 thru 1200 VOLTS  
 35 nsec  
 Hyper Fast Recovery Rectifier**

**Designer's Data Sheet**

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

**SDR**                        

**Screening <sup>2/</sup>**

- = Not Screened
- TX = TX Level
- TXV = TXV
- S = S Level

**Package Type**

- = Axial Leaded
- SMS = Surface Mount Square Tab

**Voltage/Family**

- SDR1AHF = 50V                      SDR1JHF = 600V
- SDR1BHF = 100V                    SDR1KHF = 800V
- SDR1DHF = 200V                    SDR1MHF = 1000V
- SDR1GHF = 400V                    SDR1NHF = 1200V

**FEATURES:**

- Hyper Fast Recovery: 35 nsec maximum
- PIV up to 1200 Volts
- Hermetically Sealed
- Void Free Single Chip Construction
- For High Efficiency Applications
- Low Reverse Leakage
- TX, TXV, and Space Level Screening Available<sup>2/</sup>
- Avalanche Breakdown Guaranteed
- Hyper Fast Recovery Replacement for 1N6620-6625

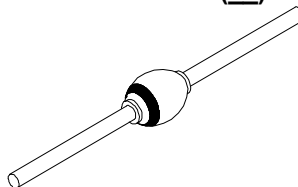
MAXIMUM RATINGS		Symbol	Value	Units
<b>Peak Repetitive Reverse Voltage and DC Blocking Voltage</b>	SDR1AHF	$V_{RRM}$ $V_{RWM}$ $V_R$	50	<b>Volts</b>
	SDR1BHF		100	
	SDR1DHF		200	
	SDR1GHF		400	
	SDR1JHF		600	
	SDR1KHF		800	
	SDR1MHF		1000	
	SDR1NHF		1200	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz, Sine Wave, T <sub>A</sub> = 25°C)		$I_O$	1.0	<b>Amps</b>
<b>Peak Surge Current @ T<sub>A</sub> = 25°C</b> (8.3 ms Pulse, Half Sine Wave or equivalent Square Wave)		$I_{FSM}$	25	<b>Amps</b>
SDR1A - 1JHF			7	
SDR1K - 1NHF				
<b>Operating and Storage Temperature</b>		T <sub>OP</sub> & T <sub>stg</sub>	-65 to +175	<b>°C</b>
<b>Maximum Thermal Resistance</b> Junction to Lead, L = 0.375" (Axial Lead)		$R_{\theta JL}$	45	<b>°C/W</b>
Junction to End Tab (Surface Mount)		$R_{\theta JE}$	28	

**NOTES:**

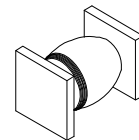
<sup>1/</sup> For Ordering Information, Price, and Availability- Contact Factory.

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

**Axial Leaded (      )**



**Square Tab Surface Mount (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 #: RH0119H**

**DOC**



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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1$ Amps, $T_A = 25^\circ\text{C}$ , Pulsed)	SDR1AHF – SDR1JHF SDR1KHF – SDR1NHF	$V_{F1}$	— —	3.30 3.50	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1$ Amps, $T_A = -55^\circ\text{C}$ , Pulsed)	SDR1AHF – SDR1JHF SDR1KHF – SDR1NHF	$V_{F2}$	— —	3.40 3.60	Volts
<b>Reverse Leakage Current</b> (At Rated $V_R$ , pulsed)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	$I_{R1}$ $I_{R2}$	— —	5.0 200	$\mu\text{A}$
<b>Reverse Recovery Time</b> ( $I_F = 500$ mA, $I_R = 1$ A, $I_{RR} = 250$ mA, $T_A = 25^\circ\text{C}$ )		$t_{rr}$	—	35	ns
<b>Junction Capacitance</b> ( $V_R = 10$ V <sub>DC</sub> , $T_A = 25^\circ\text{C}$ , $f = 1$ MHz)		$C_J$	—	20	pF

**Case Outline: (Axial)**

DIM	MIN	MAX
A	—	0.150"
B	—	0.190"
C	0.027"	0.033"
D	0.950"	—

**Case Outline: (SMS)**

DIM	MIN	MAX
A	0.134"	0.153"
B	0.200"	0.280"
C	0.022"	0.028"
D	0.002"	—

**Note: Dimensions prior to soldering.**