



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
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**SDR2HF1.8 and SMS
SDR2HF2.0 and SMS**

**2 AMPS
1800 - 2000 VOLTS
35 nsec
HYPER FAST RECOVERY
RECTIFIER**

Designer's Data Sheet

Part Number/Ordering Information^{1/}
SDR2HF

$\overline{\text{L}}$ **Screening**^{2/}
 $\overline{\text{L}}$ = Not Screened
 $\overline{\text{TX}}$ = TX Level
 $\overline{\text{TXV}}$ = TXV
 $\overline{\text{S}}$ = S Level

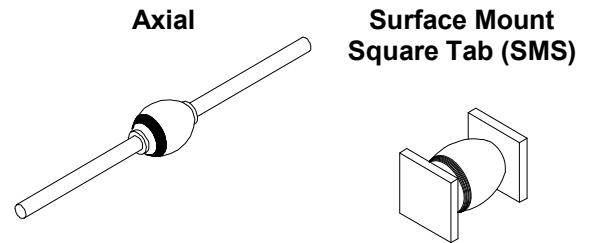
$\overline{\text{L}}$ **Package Type**
 $\overline{\text{L}}$ = Axial
 $\overline{\text{SMS}}$ = Surface Mount Square Tab

$\overline{\text{L}}$ **Family/Voltage**
 $\overline{\text{L}}$ 1.8 = 1800 V
 $\overline{\text{L}}$ 2.0 = 2000 V

- FEATURES:**
- Hyper Fast Recovery: 35 nsec maximum
 - PIV to 2400 Volts
 - Low Reverse Leakage Current
 - Hermetically Sealed
 - Low Thermal Resistance
 - Low trr Change at High Temperature (typical: trr = 55ns @ 100°C)
 - TX, TXV, and Space Level Screening Available.^{2/} Contact Factory.
 - Fast Recovery Versions Available. Contact Factory.
 - Single Junction Construction
 - Replaces 1N6512 and 1N6513 in many applications.

MAXIMUM RATINGS		Symbol	Value	Units
Reverse Voltage	SDR2HF1.8 & SMS SDR2HF2.0 & SMS	V_{RRM} V_{RWM} V_R	1800 2000	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A=25^\circ\text{C}$, $L=0''$)		I_O	2	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Superimposed on I_O , Allow Junction to Reach Equilibrium between Pulses, $T_A=25^\circ\text{C}$, $L=.125''$)		I_{FSM}	16	Amps
Temperature Range	Operating Storage	T_{OP} T_{stg}	-65 to +175 -65 to +200	°C
Maximum Thermal Resistance Junction to Lead, $L = 0.125''$ (Axial Lead) Junction to End Tab (Surface Mount)		$R_{\theta JL}$ $R_{\theta JE}$	11 7	°C/W

1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.
 2/ Screening Based on MIL-PRF-19500. Screening Flow Available on Request.





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SDR2HF2.0 and SMS**

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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Breakdown Voltage ($I_R = 50 \mu A$, $T_A = 25^\circ C$, Pulse)	SDR2HF1.8 & SMS SDR2HF2.0 & SMS	BV_R	1800 2000	— —	Volts
Instantaneous Forward Voltage Drop ($T_A = 25^\circ C$, Pulse)	$I_{F1} = 1 A$ $I_{F2} = 2 A$	V_{F1}	—	8.0	Volts
		V_{F2}	—	11.0	Volts
Instantaneous Forward Voltage Drop ($T_A = -55^\circ C$, Pulse)	$I_{F3} = 1 A$ $I_{F4} = 2 A$	V_{F3}	—	8.0	Volts
		V_{F4}	—	11.0	Volts
Reverse Leakage Current ($V_R = 85\%$ rated V_R , Pulse)	$T_A = 25^\circ C$ $T_A = 100^\circ C$	I_{R1}	—	10	μA
		I_{R2}	—	250	μA
Junction Capacitance ($V_R = 50 V_{DC}$, $T_A = 25^\circ C$, $f = 1 MHz$)		C_J	—	20	pF
Reverse Recovery Time ($I_F = 500 mA$, $I_R = 1 A$, $I_{RR} = 250 mA$, $T_A = 25^\circ C$)		t_{rr}	—	35	ns

Case Outline: (Axial)	DIM	MIN	MAX
	A	—	0.170"
	B	0.210"	0.250"
	C	0.045"	0.051"
	D	1.00"	—

Case Outline: (SMS)	DIM	MIN	MAX
	A	0.195"	0.205"
	B	0.255"	0.280"
	C	0.020"	0.030"
	D	0.002"	—

NOTES:
 Consult manufacturing for operating curves.