



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638 Phone: (562) 404-4474 * Fax: (562) 404-1773 ssdi@ssdi-power.com * www.ssdi-power.com

Designer's Data Sheet

Part Number/Ordering Information $^{1/2}$

SDR1

L Screening 2/

 $\frac{}{TX} = \text{Not Screened}$ $\frac{}{TX} = TX \text{ Level}$

TXV = TXV

S = S Level

Package Type

__ = Axial Leaded

Family D = 200V

K = 800V

G = 400VJ = 600V

M = 1000VN = 1200V

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

FEATURES:

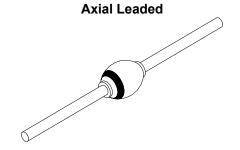
Ultra Fast Recovery: 50-80 ns Max @ 25°C 4' 80-130 ns Max @ 100°C 4'

- 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 3/							
RATING		SYMBOL	VALUE	UNIT			
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR1D SDR1G SDR1J SDR1K SDR1M SDR1N	$egin{array}{c} V_{RRM} \ V_{RWM} \ V_{R} \end{array}$	200 400 600 800 1000 1200	Volts			
Rectified Forward Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25°C)		I_0	1	Amp			
Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on Io, allow junction to equilibrium between pulses, T _A = 25°C)	reach	I_{FSM}	25	Amps			
Operating & Storage Temperature		T _{OP} and T _{STG}	Γ _{STG} -65 to +175 °C				
Thermal Resistance, Junction to Lead, L = 3/8"		$ m R_{\theta JL}$	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.
- $\underline{4}$ / Recovery Conditions: $I_F = 0.5$ Amp, $I_R = 1.0$ Amp, I_{RR} to .25 Amp.

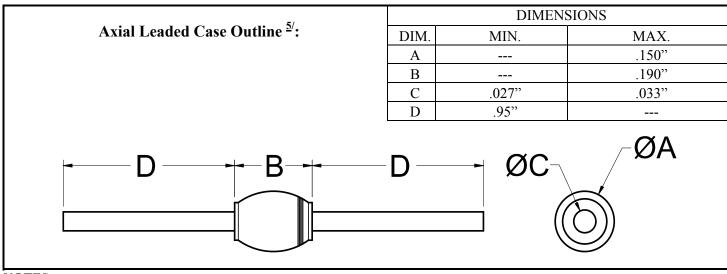




SDR₁D thru SDR1N

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ELECTRICAL CHARACTERISTICS 3/				
CHARACTERISTICS			VALUE	UNIT
Instantaneous Forward Voltage Drop ($I_F = 1 \text{Adc}, 300\text{-}500 \mu\text{s} \text{ Pulse}, T_A = 25 ^{\circ}\text{C}$)	SDR1D thru SDR1J SDR1K thru SDR1N	V_{F1}	1.70 1.90	Vdc
Instantaneous Forward Voltage Drop ($I_F = 1 \text{Adc}$, 300- 500 μ s Pulse, $T_A = -55$ °C)	SDR1D thru SDR1J SDR1K thru SDR1N	$ m V_{F2}$	2.10 2.30	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μ s Pulse Minimum , $T_A = 25$ °C)		I_{R1}	5	μΑ
Maximum Reverse Leakage Current (Rated V_R , 300 μ s Pulse Minimum , T_A = 100°C)		I_{R2}	500	μΑ
Junction Capacitance (VR = 10 Vdc, $T_A = 25$ °C, $f = 1$ MHz)		C_{J}	24	pf
Maximum Reverse Recovery Time 4/	SDR1D thru SDR1J SDR1K SDR1M SDR1N	t _{rr}	50 60 70 80	ns



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- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- $\underline{\textbf{4}}/$ 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.