



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638

Phone: (562) 404-7855 * Fax: (562) 404-1773

ssdi@ssdi-power.com * www.ssdi-power.com

**SDR4G - SDR4N
and
SDR4GSMS – SDR4NSMS**

**3 AMP
400 – 1200 Volts
50-80 nsec
ULTRA FAST RECTIFIER**

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

SDR4 — — —

- └ **Screening^{2/}** = None
 - TX = TX Level
 - TXV = TXV Level
 - S = S Level
- └ **Package**
 - ___ = Axial
 - SMS = Surface Mount Square Tab
- └ **Voltage**
 - G = 400 V
 - J = 600 V
 - K = 800 V
 - M = 1000 V
 - N = 1200 V

Features:

- **Ultra Fast Recovery: 50-80 nsec Max. @ 25°C**
85-125 nsec Max. @ 100°C
- **Single Chip Construction**
- **PIV to 1200 Volts**
- **Low Reverse Leakage Current**
- **Hermetically Sealed**
- **For High Efficiency Applications**
- **Available in Axial Leaded & Surface Mount versions**
- **Metallurgically Bonded**
- **TX, TXV, and S-Level Screening Available^{2/}**

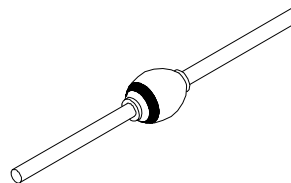
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR4G	V_{RRM}	400	Volts
	SDR4J		600	
	SDR4K	V_{RWM}	800	
	SDR4M		1000	
	SDR4N	V_R	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)		I_o	3	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$)		I_{FSM}	75	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +175	°C
Maximum Thermal Resistance	Junction to Lead, L = 3/8 "	$R_{\theta JL}$	20	°C/W
	Junction to End Tab	$R_{\theta JE}$	14	

Notes:

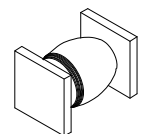
^{1/} For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

^{2/} Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Axial Leaded



SMS (Square)



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RU0015B

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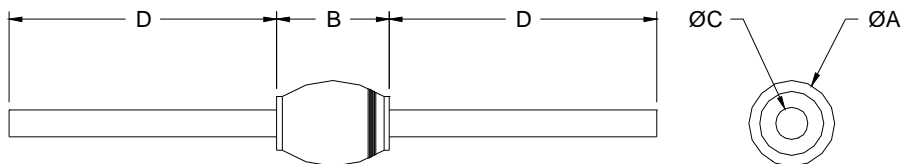
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 SDR4GSMS – SDR4NSMS**

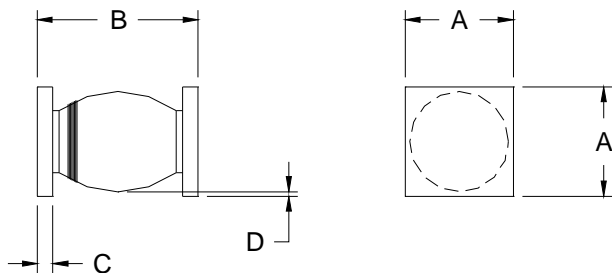
Electrical Characteristics	Part Type	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 3 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)	SDR2G – J SDR2K – N	V_F	1.9 2.1	Vdc
Instantaneous Forward Voltage Drop ($I_F = 3 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)	SDR2G – J SDR2K – N	V_F	2.1 2.3	Vdc
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs pulse minimum)		I_R	5	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs pulse minimum)		I_R	0.5	μA
Junction Capacitance ($V_R = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	40	pF
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$, $T_A = 25^\circ\text{C}$)	SDR2G – J SRS1K SRS1M SRS1N	t_{rr}	50 60 70 80	nsec

Case Outline: (Axial)



DIMENSIONS		
DIM	MIN	MAX
A	.120"	.180"
B	.130"	.230"
C	.047"	.053"
D	1.00"	---

Case Outline: Surface Mount (SMS)



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

Dimensions prior to solder dipping

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