



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

**SDR3A and SDR3ASMS
 thru
 SDR3N and SDR3NSMS**

**3.0 AMPS
 50 – 1200 VOLTS
 50 – 80 nsec ULTRA FAST RECTIFIER**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SDR3 — — —

- L **Screening ^{2/}**
 - = Not Screened
 - TX = TX Level
 - TXV = TXV
 - S = S Level
- Package Type**
 - = Axial Leaded
 - SMS = Surface Mount Square Tab
- Family**

A = 50 V	J = 600V
B = 100V	K = 800V
D = 200V	M = 1000V
G = 400V	N = 1200V

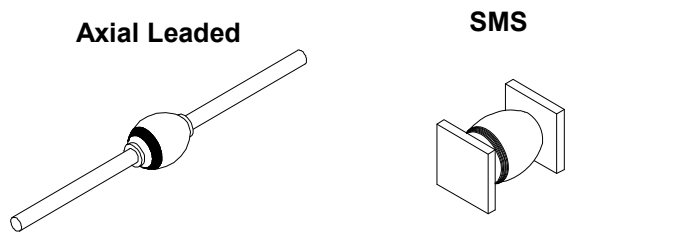
- FEATURES:**
- **Ultra Fast Recovery:** 50-80 ns Max @ 25°C ^{4/}
85-125 ns Max @ 100°C ^{4/}
 - **Single Chip Construction**
 - **PIV to 1200 Volts**
 - **Low Reverse Leakage Current**
 - **Hermetically Sealed**
 - **For High Efficiency Applications**
 - **Available in Axial and Surface Mount Versions**
 - **Metallurgically Bonded**
 - **TX, TXV, and S-Level Screening Available ^{2/}**

MAXIMUM RATINGS ^{3/}

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50 100 200 400 600 800 1000 1200	Volts
Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ\text{C}$)	I_O	3	Amp
Peak Surge Current (8.3 msec 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	T_{OP} and T_{STG}	-65 to +175	°C
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, and Availability- Contact Factory.
- 2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 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.





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ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ($I_F = 3A_{dc}$, 300- 500 μs Pulse, $T_A = 25^\circ C$)	SDR3A thru SDR3J SDR3K thru SDR3N	V_{F1}	1.35 1.90	Vdc
Instantaneous Forward Voltage Drop ($I_F = 3A_{dc}$, 300- 500 μs Pulse, $T_A = -55^\circ C$)	SDR3A thru SDR3J SDR3K thru SDR3N	V_{F2}	1.50 2.10	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 25^\circ C$)		I_{R1}	5	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 100^\circ C$)		I_{R2}	500	μA
Junction Capacitance ($V_R = 10V_{dc}$, $T_A = 25^\circ C$, $f = 1MHz$)		C_J	50	pf
Maximum Reverse Recovery Time ^{4/}	SDR3A thru SDR3J SDR3K SDR3M SDR3N	t_{rr}	50 60 70 80	ns

Axial Leaded Case Outline ^{5/} :	DIMENSIONS			Square Tab Surface Mount Case Outline ^{5/} :	DIMENSIONS		
	DIM.	MIN.	MAX.		DIM.	MIN.	MAX.
	A	.120"	.180"		A	.172"	.180"
	B	---	.230"		B	.180"	.280"
	C	.047"	.053"		C	.022"	.028"
	D	1.00"	---		D	.002"	---