



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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**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/}

SDR1 _ _ _

 | | |

 | | | **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**

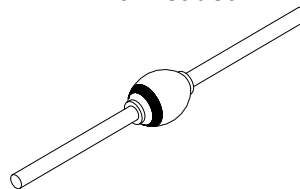
MAXIMUM RATINGS ^{3/}

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 Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25°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°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	

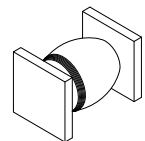
NOTES:

- 1/ For Ordering Information, Price, and Availability- Contact Factory.
- 2/ Screened to MIL-PRF-19500.
- 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.

Axial Leaded



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 #: RU0013D

DOC



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ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ($I_F = 1\text{Adc}$, 300- 500 μs Pulse, $T_A = 25^\circ\text{C}$)	SDR3A thru SDR3J SDR3K thru SDR3N V_{F1}	1.35 1.90	Vdc
Instantaneous Forward Voltage Drop ($I_F = 1\text{Adc}$, 300- 500 μs Pulse, $T_A = -55^\circ\text{C}$)	SDR3A thru SDR3J SDR3K thru SDR3N V_{F2}	1.50 2.10	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 25^\circ\text{C}$)	I_{R1}	5	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 100^\circ\text{C}$)	I_{R2}	500	μA
Junction Capacitance ($V_R = 10\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	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		
DIM.	MIN.	MAX.
A	.120"	.180"
B	---	.230"
C	.047"	.053"
D	1.00"	---

Square Tab Surface Mount Case Outline ^{5/}:

DIMENSIONS		
DIM.	MIN.	MAX.
A	.172"	.180"
B	.180"	.280"
C	.022"	.028"
D	.002"	---

NOTES:

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- 2/ Screened to MIL-PRF-19500.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ Recovery Conditions: $I_F = 0.5\text{ Amp}$, $I_R = 1.0\text{ Amp}$, I_{RR} to .25 Amp.
- 5/ For information on operating curves, contact factory.