



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SDR1P thru SDR1W and SDR1PSMS and SDR1WSMS

1 AMP
1300 — 1900 VOLTS
70 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 P = 1300 V
R = 1400 V
S = 1500 V
T = 1600 V
V = 1700 V
W = 1800 V

- FEATURES:**
- Ultra Fast Recovery: 70 ns Max @ 25°C ^{4/}
 - Single Chip Construction
 - PIV to 1800 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/}

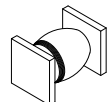
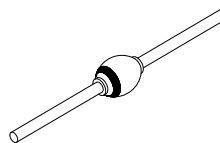
RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR1P and SDR1PSMS SDR1R and SDR1RSMS SDR1S and SDR1SSMS SDR1T and SDR1TSMS SDR1V and SDR1VSMS SDR1W and SDR1WSMS	V_{RRM} V_{RWM} V_R	1300 1400 1500 1600 1700 1800 Volts
Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25°C)	I_O	1.0	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}	12	Amps
Operating & Storage Temperature	T _{OP} and T _{STG}	-65 to +175	°C
Thermal Resistance, Junction to Lead, L = 3/8" (Axial) Junction to End Tab (SMS)	$R_{\theta JL}$ $R_{\theta JE}$	40 28	°C/W

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.

Axial Lead

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 #: RU0001J

DOC



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**SDR1P thru SDR1W
 and
 SDR1PSMS and SDR1WSMS**

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ($I_F = 1 \text{ A dc}$, 300- 500 μs Pulse, $T_A = 25^\circ\text{C}$)	V_{F1}	3.60	Vdc
Instantaneous Forward Voltage Drop ($I_F = 1 \text{ A dc}$, 300- 500 μs Pulse, $T_A = -55^\circ\text{C}$)	V_{F2}	4.80	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}	100	μA
Junction Capacitance ($V_R = 100\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	C_J	20	pf
Maximum Reverse Recovery Time ^{4/}	t_{rr}	70	ns

Axial Leaded Case Outline:

DIMENSIONS		
DIM.	MIN.	MAX.
A	.100"	.150"
B	.125"	.200"
C	.027"	.033"
D	1.00"	---

Square Tab Surface Mount Case Outline:

DIMENSIONS		
DIM.	MIN.	MAX.
A	.135"	.155"
B	.175"	.250"
C	.022"	.028"
D	.002"	---