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

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 ___ ___ ___

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**

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 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 Io, allow junction to reach equilibrium between pulses, T_A = 25°C)		I_{FSM}	20	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)		$R_{\theta JL}$ $R_{\theta JE}$	35 28	°C/W

NOTES:

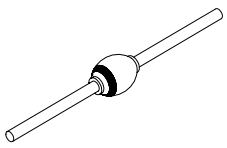
1/ For Ordering Information, Price, and Availability- Contact Factory.

2/ Screened to MIL-PRF-19500.

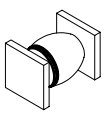
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp, I_{RR} to .25 Amp.

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 #: RU0001D	DOC

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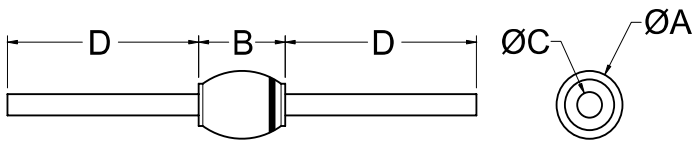
SDR1P thru SDR1W and SDR1PSMS and SDR1WSMS

ELECTRICAL CHARACTERISTICS 3/

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop (I_F = 1 Adc, 300- 500 µs Pulse, T_A = 25°C)	V_{F1}	3.60	Vdc
Instantaneous Forward Voltage Drop (I_F = 1 Adc, 300- 500 µs Pulse, T_A = -55°C)	V_{F2}	3.80	Vdc
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 25°C)	I_{R1}	5	µA
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 100°C)	I_{R2}	100	µA
Junction Capacitance (VR = 100Vdc, T_A = 25°C , f = 1MHz)	C_J	20	pf
Maximum Reverse Recovery Time 4/	t_{rr}	70	ns

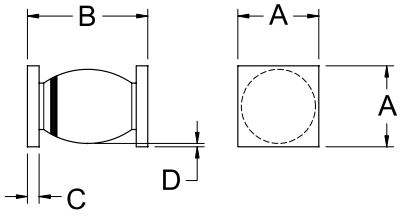
Axial Leaded Case Outline:

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”	---



NOTES:

1/ For Ordering Information, Price, and Availability- Contact Factory.
2/ Screened to MIL-PRF-19500.
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.
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.