



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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SDR1PHF thru SDR1WHF and SDR1PHFSMS and SDR1WHFSMS

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

Reverse Recovery

HF = Hyper Fast

Family/Voltage

P = 1300 V T = 1600 V

R = 1400 V V = 1700 V

S = 1500 V W = 1800 V

1 AMP

HYPER FAST RECTIFIER

1300 — 1800 VOLTS

40 nsec

FEATURES:

- Hyper Fast Recovery: 40 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	SDR1PHF SDR1RHF SDR1SHF SDR1THF SDR1VHF SDR1WHF	V_{RRM} V_{RWM} V_R	1300 1400 1500 1600 1700 1800	Volts
Rectified Forward Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_L = 25^{\circ}\text{C}$, $L = 1/8''$)		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, $T_A = 25^{\circ}\text{C}$)		I_{FSM}	12	Amps
Operating & Storage Temperature		T_{OP} and T_{STG}	-65 to +175	$^{\circ}\text{C}$
Thermal Resistance, Junction to Lead, $L = 3/8''$ (Axial) Junction to End Tab (SMS)		$R_{\theta JL}$ $R_{\theta JE}$	35 28	$^{\circ}\text{C/W}$

NOTES:

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

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

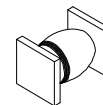
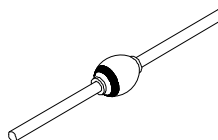
^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C.

^{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 #: RC0129A

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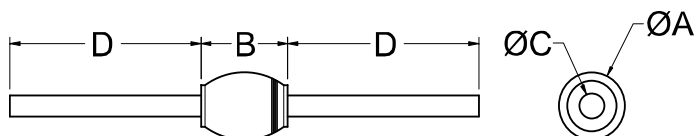
**SDR1PHF thru SDR1WHF
and
SDR1PHFSMS and SDR1WHFSMS**

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop ($I_F = 1 \text{ Adc}$, 300- 500 μs Pulse, $T_A = 25^\circ\text{C}$)	V_{F1}	4.80	Vdc
Instantaneous Forward Voltage Drop ($I_F = 1 \text{ Adc}$, 300- 500 μs Pulse, $T_A = -55^\circ\text{C}$)	V_{F2}	5.0	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 25^\circ\text{C}$)	I_{R1}	20	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum , $T_A = 100^\circ\text{C}$)	I_{R2}	200	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}	40	ns

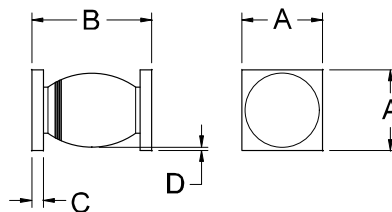
Axial Leaded Case Outline:

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"	---



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