



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773  
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## SDR047/01

### DESIGNER'S DATA SHEET

#### Part Number / Ordering Information <sup>1/</sup>

SDR047/01—

- L Screening<sup>2/</sup> = None
- TX = TX Level
- TXV = TXV Level
- S = S Level

**0.5 AMP**  
**5000 Volts**  
**180 nsec**  
**Vf MATCHED HIGH VOLTAGE**  
**RECTIFIER PAIR**

#### Features:

- Matched diode Pair within 5% of Vf
- Fast Recovery: 180 nsec Max.
- PIV 5000 Volts
- Hermetically Sealed
- Metallurgically Bonded Construction
- 175°C Maximum Operating Temperature
- TX, TXV, and S-Level Screening Available<sup>2/</sup>

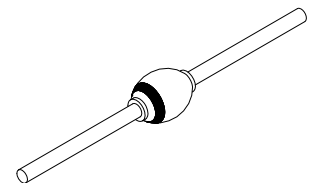
Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	5000	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_C = 55^\circ\text{C}$ )	$I_o$	500	mAmps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_C = 25^\circ\text{C}$ )	$I_{FSM}$	25	Amps
Operating & Storage Temperature	Top & Tstg	-65 to +175	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	18	°C/W

Notes:

<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

<sup>2/</sup> Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

**Axial Leaded**



**NOTE:** All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RC0041B**

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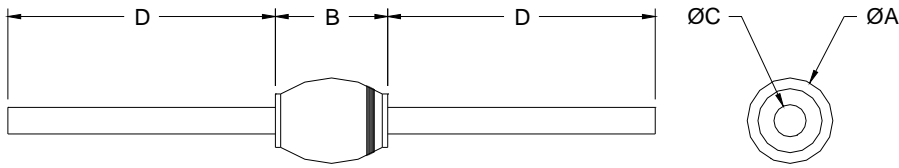
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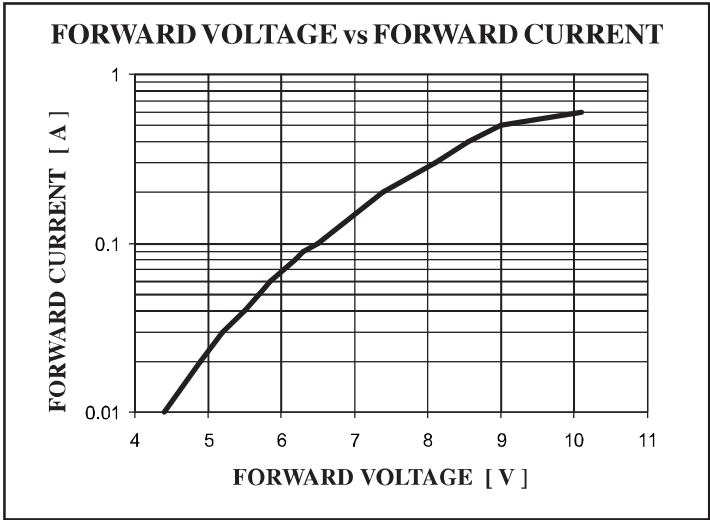
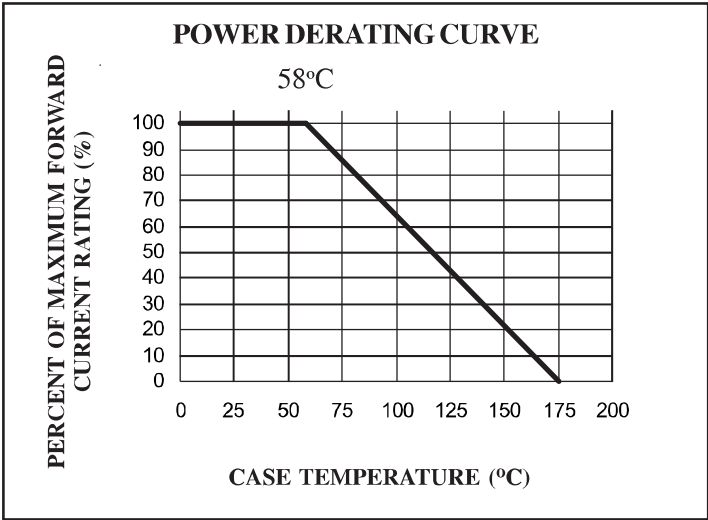
Electrical Characteristics	Part Type	Symbol	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 0.5A_{dc}$ , $T_A = 25^\circ C$ , 300-500 $\mu s$ pulse)		$V_{F1}$	13	Vdc
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 0.5A_{dc}$ , $T_A = 25^\circ C$ , 300-500 $\mu s$ pulse)		$\Delta V_F$	5	%
<b>Reverse Leakage Current</b> (Rated $V_R$ , 300 $\mu s$ pulse minimum)	$T_J = 25^\circ C$	$I_{R1}$	51.0	$\mu A$
	$T_J = 100^\circ C$	$I_{R2}$	25	
<b>Junction Capacitance</b> ( $V_R = 100 V_{dc}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )		$C_J$	10	pF
<b>Reverse Recovery Time</b> ( $I_F = 500 mA$ , $I_R = 1A$ , $I_{RR} = 0.25A$ , $T_A = 25^\circ C$ )		$t_{rr}$	180	nsec

Case Outline: (Axial)



DIMENSIONS		
DIM	MIN	MAX
A	---	.300"
B	---	.425"
C	.047"	.063"
D	.400"	---

**TYPICAL OPERATING CURVES**



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