


**Solid State Devices, Inc.**

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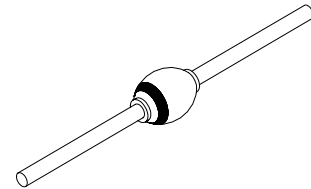
**Designer's Data Sheet**
**FEATURES:**

- Fast Recovery: 130 nsec maximum
- PIV up to 800 Volts
- Low Reverse Leakage Current
- Hermetically Sealed
- Single Chip Construction
- High Surge Rating
- Low Thermal Resistance
- TX, TXV, and Space Level Screening Available

**SPD4963-1 thru SPD4963-3**

**1 AMP**  
**550 – 800 VOLTS**  
**130 nsec**  
**FAST RECOVERY**  
**RECTIFIER**

Axial



MAXIMUM RATINGS		Symbol	Value	Units
DC Blocking Voltage	SPD4963-1	$V_R$	500	Volts
	SPD4963-2		600	
	SPD4963-3		600	
Peak Repetitive Reverse Voltage	SPD4963-1	$V_{BR}$	550	Volts
	SPD4963-2		670	
	SPD4963-3		800	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A=25^\circ\text{C}$ )		$I_O$	1	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, Superimposed on $I_O$ ; Allow junction to reach equilibrium between pulses; $T_A=25^\circ\text{C}$ )		$I_{FSM}$	20	Amps
Operating and Storage Temperature		$T_{OP}$ & $T_{stg}$	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Lead, $L = 0.375''$		$R_{\theta JL}$	40	$^\circ\text{C/W}$

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

DATA SHEET #: RC0051B

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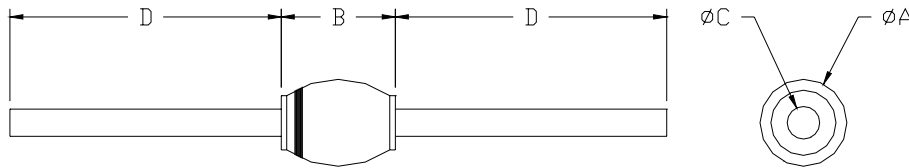
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**SPD4963-1 thru SPD4963-3**

ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 1 A_{DC}$ , $T_A = 25^\circ C$ , 300 - 500 $\mu$ sec Pulse)	SPD4963-1	$V_{F1}$	—	1.30	Volts
	SPD4963-2		—	1.30	
	SPD4963-3		—	1.35	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 60 A_{DC}$ , $T_A = 25^\circ C$ , 50 - 500 $\mu$ sec Pulse)	ALL	$V_{F2}$	—	10.0	Volts
<b>Reverse Breakdown Voltage</b> ( $I_R = 100 \mu A_{DC}$ , $T_A = 25^\circ C$ , 300 $\mu$ sec min Pulse)	SPD4963-1	$V_{BR}$	550	—	Volts
	SPD4963-2		670	—	
	SPD4963-3		800	—	
<b>Reverse Leakage Current</b> (Rated $V_R$ , 300 $\mu$ sec min Pulse)	$T_A = 25^\circ C$ $T_A = 150^\circ C$	$I_{R1}$	—	2	$\mu A$
		$I_{R2}$	—	1	mA
<b>Storage Charge</b> ( $I_F = 100 mA$ , $T_A = 25^\circ C$ )		$Q_S$	—	30	nC
<b>Reverse Recovery Time</b> ( $I_F = 500 mA$ , $I_R = 1 A$ , $I_{RR} = 250 mA$ , $T_A = 25^\circ C$ )		$t_{rr}$	—	130	ns

**Case Outline:**



DIM	MIN	MAX
A	--	0.120"
B	--	0.250"
C	0.027"	0.033"
D	1.00"	—

**NOTES:**

Consult manufacturing for operating curves.