



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

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD _ _ _

Screening ^{2/}

— = Not Screened

TX = TX Level

TXV = TXV

S = S Level

Package Type

— = Axial Leaded

SMS = Surface Mount Square Tab

Voltage/Family

5550 = 200V

5551 = 400V

5552 = 600V

5553 = 800V

5554 = 1000V

SPD5550 Thru SPD5554 Series

5 AMPS, 200 thru 1000 VOLTS

2 μ sec

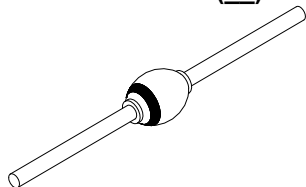
**STANDARD RECOVERY
RECTIFIER**

FEATURES:

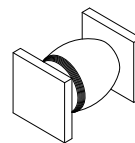
- Standard Recovery: 2 μ sec maximum
- PIV up to 1000 Volts
- Low Reverse Leakage Current
- Hermetically Sealed
- Single Chip Construction
- Replacement for 1N5550 thru 1N5554 Series
- Low Thermal Resistance
- For Higher Voltages-See SSDI p/n SDR6557 Series
- TX, TXV, and Space Level Screening Available
- Fast Recovery Versions Available. Contact Factory.

MAXIMUM RATINGS		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SPD5550	V_{RRM} V_{RWM} V_R	200	Volts
	SPD5551		400	
	SPD5552		600	
	SPD5553		800	
	SPD5554		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave)	$T_{EC}=130^{\circ}\text{C}$ (SMS)	I_O	5.0	Amps
	$T_L=30^{\circ}\text{C}$ at .375" (Axial)		1.3	
	$T_A=55^{\circ}\text{C}$ PCB Mount		1.3	
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}	100	Amps
Operating and Storage Temperature		T_{OP} & T_{stg}	-65 to +175	$^{\circ}\text{C}$
Maximum Thermal Resistance Junction to Lead, $L = 0.375$ " (Axial Lead) Junction to End Tab (Surface Mount)		$R_{\theta JL}$	22	$^{\circ}\text{C/W}$
		$R_{\theta JE}$	6.5	

Axial Leaded (_)



Square Tab Surface Mount (SMS)



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

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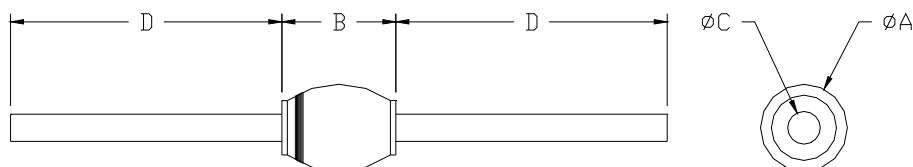
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SPD5550 Thru SPD5554 Series

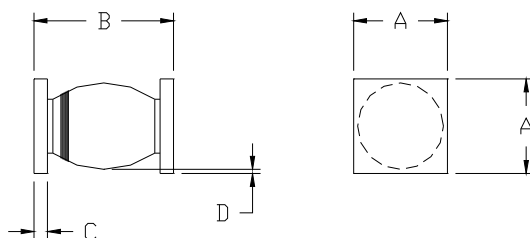
ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Instantaneous Forward Voltage Drop ($I_F = 9$ Amps, $T_A = 25^\circ\text{C}$, 300 μsec Pulse)	$T_A = 25^\circ\text{C}$	V_{F1}	—	1.20	Volts
	$T_A = -55^\circ\text{C}$	V_{F2}	—	1.50	Volts
Reverse Leakage Current (At Rated V_R , 300 μsec pulse minimum)	$T_A = 25^\circ\text{C}$	I_{R1}	—	5.0	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	—	20	μA
Breakdown Voltage ($I_R = 50 \mu\text{A}$, $T_A = 25^\circ\text{C}$)	SPD5550	V_{BR}	200	—	Volts
	SPD5551		400	—	
	SPD5552		600	—	
	SPD5553		800	—	
	SPD5554		1000	—	
Junction Capacitance ($V_R = 10 \text{ V}_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$)		C_J	—	50	pF
Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ A}$, $I_{RR} = 250 \text{ mA}$, $T_A = 25^\circ\text{C}$)		t_{rr}	—	2	μs

Case Outline: (Axial)



DIM	MIN	MAX
A	—	0.170"
B	0.210"	0.250"
C	0.037"	0.043"
D	1.00"	—

Case Outline: (SMS)



DIM	MIN	MAX
A	0.170"	0.180"
B	0.260"	0.300"
C	0.020"	0.030"
D	0.002"	—

Note: Dimensions prior to soldering.

NOTES:

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

2/ Screened to MIL-PRF-19500.

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