Solid State Devices, Inc.
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SPD5550 Thru SPD5554 Series

5 AMPS, 200 thru 1000 VOLTS 2 μsec STANDARD RECOVERY RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information [1/]

SPD ___ ___ ___

Screening [2/]
- __ = Not Screened
- TX = TX Level
- TXV = TXV
- S = S Level

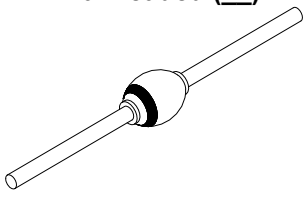
Package Type
- __ = Axial Leaded
- SMS = Surface Mount Square Tab

Voltage/Family
- 5550 = 200V
- 5551 = 400V
- 5552 = 600V
- 5553 = 800V
- 5554 = 1000V

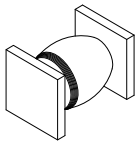
FEATURES:
- Standard Recovery: 2 μsec maximum
- PIV up to 1000 Volts
- Low Reverse Leakage Current
- Hermetically Sealed
- Single Chip Construction
- Replacement for 1N5550 thru 1N5554 Series
- Low Thermal Resistance
- For Higher Voltages-See SSDI p/n SDR6557 Series
- TX, TXV, and Space Level Screening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

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

Axial Leaded (__)



Square Tab Surface Mount (SMS)



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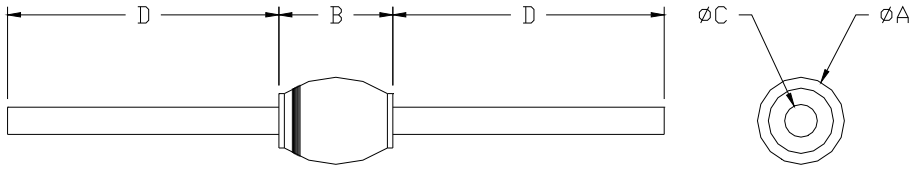
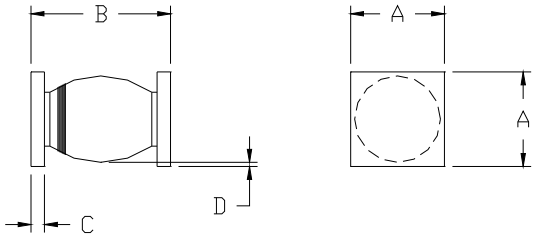
ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Instantaneous Forward Voltage Drop (I_F = 9 Amps, T_A = 25°C, 300µsec Pulse)	T_A = 25°C T_A = -55°C	V_{F1} V_{F2}	— —	1.20 1.50	**Volts** **Volts**
Reverse Leakage Current (At Rated V_R, 300µsec pulse minimum)	T_A = 25°C T_A = 100°C	I_{R1} I_{R2}	— —	5.0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