

SPD5550 - SPD5554 Series

5 AMP, 200 - 1000 VOLTS
2 μsec
STANDARD RECOVERY
RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information^{1/}

SPD

L **Screening^{2/}**
 = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

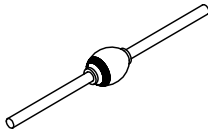
L **Package Type**
 = Axial Leaded
 SMS = Surface Mount Square Tab
 FL = Flat Leads

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

- 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^{2/}
 - 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	V
	SPD5551		400	
	SPD5552		600	
	SPD5553		800	
	SPD5554		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave)	$T_{EC} = 130^{\circ}C$ (SMS)	I_o	5.0	A
	$T_L = 30^{\circ}C$ at .375" (Axial & FL)		1.3	
	$T_A = 55^{\circ}C$ 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, $T_A = 25^{\circ}C$)		I_{FSM}	100	A
Operating and Storage Temperature		T_{OP} & T_{stg}	-65 to +175	°C
Maximum Thermal Resistance	Junction to Lead, L = 0.375" (Axial & FL)	$R_{\theta JL}$	22	°C/W
	Junction to End Tab (Surface Mount)	$R_{\theta JE}$	6.5	

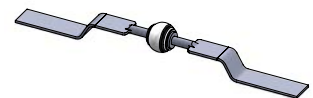
Axial Leaded ()



Square Tab Surface Mount (SMS)



Flat Leads (FL)



NOTES:

- ^{1/} For ordering information, price, operating curves, and availability - contact factory.
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.



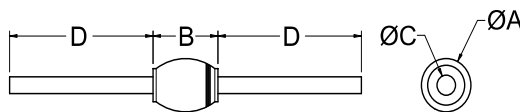
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ELECTRICAL CHARACTERISTICS		Symbol	Min	Max	Unit
Instantaneous Forward Voltage Drop ($I_F = 9$ Amps, $T_A = 25^\circ\text{C}$, 300 μsec Pulse)	$T_A = 25^\circ\text{C}$	V_{F1}	—	1.20	V
	$T_A = -55^\circ\text{C}$	V_{F2}	—	1.50	V
Reverse Leakage Current (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	—	V
	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

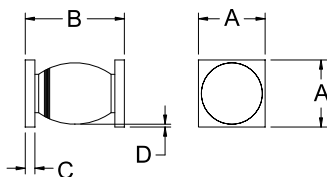
Case Outline: Axial Leaded (___)



Dimensions (inches)

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

Case Outline: Surface Mount Square Tab (SMS)

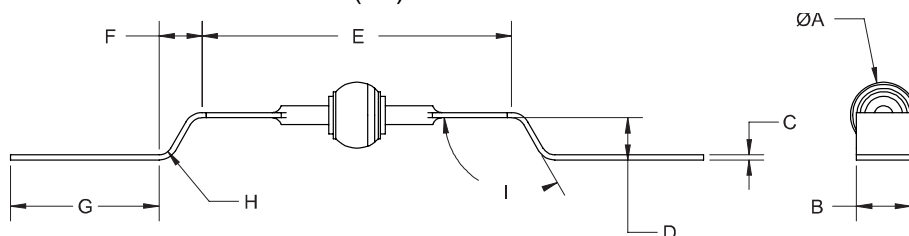


Dimensions (inches)

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.

Case Outline: Flat Leads (FL)



Dimensions (inches)

DIM	MIN	MAX
A	—	0.170
B	0.065	0.085
C	0.015	0.021
D	0.084	0.104
E	0.620	0.660
F	REF 0.090	
G	0.295	0.335
H	REF R.03	
I	REF 120°	

FEATURES FOR FLAT LEADS PACKAGE

- Solid silver leads
- Provide stress relief (customizable to customer specifications)
- Ideal for welding to BUS bar
- Typical application: solar array bypass / blocking diodes for photovoltaic (PV) panels

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

DATA SHEET #: RC0112C

DOC