



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 (for SM, use -S)

Package Type

— = Axial Leaded

SM = Surface Mount Round Tab

SMS = Surface Mount Square Tab

Voltage

4945 = 500V

4942 = 200V

4946 = 600V

4943 = 300V

4947 = 800V

4944 = 400V

4948 = 1000V

SPD4942 Thru SPD4948 Series

1 Amp, 150-200 nsec, 200-1000 V Fast Recovery Rectifier

Features:

- Fast Recovery: 150-200 nsec maximum
- Low Reverse Leakage Current
- Single Chip Construction
- PIV to 1000 Volts
- Hermetically Sealed
- High Surge Rating
- Low Thermal Resistance
- Replacement for 1N4942 – 1N4948
- TX, TXV, and Space Level Screening Available^{2/}

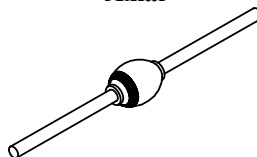
Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SPD4942	200	Volts
	SPD4943	300	
	SPD4944	400	
	SPD4945	500	
	SPD4946	600	
	SPD4947	800	
	SPD4948	1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T _A = 25 °C)	I _O	1	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I _O , allow junction to reach equilibrium between pulses, T _A = 25 °C)	I _{FSM}	25	Amps
Operating & Storage Temperature	T _{OP} & T _{STG}	-65 to +175	°C
Maximum Thermal Resistance	Junction to Leads, L= 3/8"	45	°C/W
	Junction to Tabs	35	

NOTES:

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

^{2/} Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

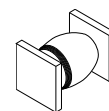
Axial



Surface Mount
Round Tab



Surface Mount
Square Tab



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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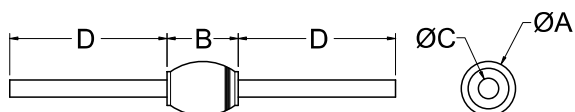
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SPD4942 Thru SPD4948 Series

Electrical Characteristics	Symbol	Value	Units
Instantaneous Forward Voltage Drop ($I_F = 1\text{A}_{dc}$, $T_A = 25^\circ\text{C}$, 300 μs Pulse)	V_F	1.3	V_{DC}
Instantaneous Forward Voltage Drop ($I_F = 1\text{A}_{dc}$, $T_A = -55^\circ\text{C}$, 300 μs Pulse)	V_F	1.5	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs minimum pulse)	I_R	1.0	μA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs minimum pulse)	I_R	20	μA
Reverse Recovery Time ($I_F = 500\text{ mA}$, $I_R = 1\text{ Amp}$, $I_{RR} = 250\text{ mA}$, $T_A = 25^\circ\text{C}$)	t_{RR}	150 200	nsec
Junction Capacitance ($V_R = 10V_{DC}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	C_J	20	pF

CASE OUTLINE:

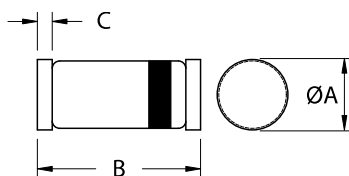
Axial



Dimensions		
DIM	MIN	MAX
A	.100"	.150"
B	---	.180"
C	.027"	.033"
D	1.00"	---

CASE OUTLINE:

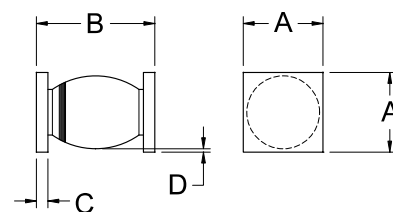
Surface Mount Round Tab



Dimensions		
DIM	MIN	MAX
A	.095"	.105"
B	.185"	.205"
C	.015"	.035"

CASE OUTLINE:

Surface Mount Square Tab



Dimensions		
DIM	MIN	MAX
A	.134"	.153"
B	.200"	.280"
C	.022"	.028"
D	.002"	---

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