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

SPD4942 Thru SPD4948
Series

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

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**

4942 = 200V	4945 = 500V
4943 = 300V	4946 = 600V
4944 = 400V	4947 = 800V
	4948 = 1000V

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/]

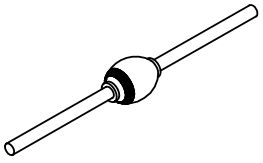
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	**SPD4942** **SPD4943** **SPD4944** **SPD4945** **SPD4946** **SPD4947** **SPD4948**	**V_{RRM}** **V_{RWM}** **V_R**	**200** **300** **400** **500** **600** **800** **1000**	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25 °C)		**Io**	**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**	**ºC**
Maximum Thermal Resistance	Junction to Leads, L= 3/8" Junction to Tabs	**$R_{\theta JL}$** **$R_{\theta JE}$**	**45** **35**	**ºC/W**

NOTES:

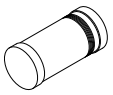
1/ For Ordering Information, Operating Curves, Price, and Availability- Contact Factory.

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

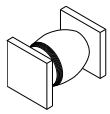
Axial



Surface Mount Round Tab



Surface Mount Square Tab



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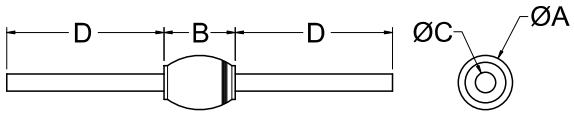
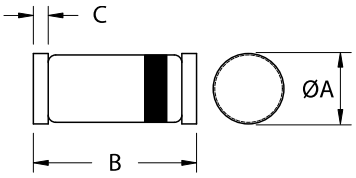
Electrical Characteristics		Symbol	Value	Units
Instantaneous Forward Voltage Drop (I_F =1Adc, T_A = 25 ºC, 300µs Pulse)		V_F	1.3	V_{DC}
Instantaneous Forward Voltage Drop (I_F =1Adc, T_A = -55 ºC, 300µs Pulse)		V_F	1.5	V_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25 ºC , 300µs minimum pulse)		I_R	1.0	µA
Reverse Leakage Current (Rated V_R, T_A = 100 ºC , 300µs minimum pulse)		I_R	20	µA
Reverse Recovery Time (I_F = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA, T_A = 25 ºC)	**SPD4942-SPD4945** **SPD4946-SPD4948**	t_{RR}	150 200	nsec
Junction Capacitance (V_R = 10V_{DC}, T_A = 25ºC, f = 1MHz)		C_J	20	pF

CASE OUTLINE:
Axial



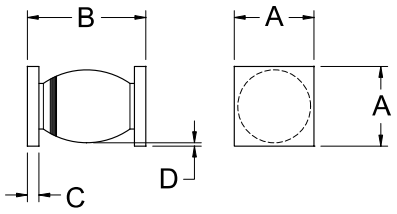
Dimensions		
DIM	**MIN**	**MAX**
A	**.100”**	**.150”**
B	**---**	**.180”**
C	**.027”**	**.033”**
D	**1.00”**	**---**

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”**	**---**