Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SPD502-SPD506 and SPD502SMS - SPD506SMS

DESIGNER'S DATA SHEET

5 AMP
200–600 Volts
40 nsec
HYPER FAST RECTIFIER

Part Number / Ordering Information [1/]

SPD5__ ___ __

- **Screening**[2/] = None, TX = TX Level, TXV = TXV Level, S = S Level
- **Package**: ___ = Axial Leaded, SMS = Surface Mount Square Tab
- **Voltage**: 02 = 200 V, 03 = 300 V, 04 = 400 V, 05 = 500 V, 06 = 600V

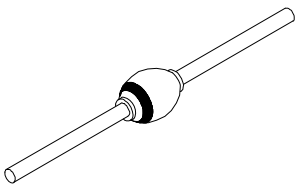
Features:

- Hyper Fast Recovery: 40 nsec Max.
- PIV to 600 Volts
- Low Forward Voltage Drop
- Void Free Construction
- Hermetically Sealed Surface Mount Package
- For High Efficiency Applications
- Single Chip Construction
- TX, TXV, and S-Level Screening Available[2/]

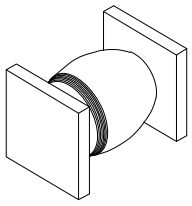
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	**SPD502**	V_{RRM}	200	**Volts**
	SPD503		300	
	SPD504	V_{RWM}	400	
	SPD505		500	
	SPD506	V_R	600	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25ºC)		**Io**	5	**Amps**
Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on Io, Allow Junction to Reach Equilibrium between Pulses, T_A = 25ºC)		I_{FSM}	100	**Amps**
Operating & Storage Temperature		**Top & Tstg**	-65 to +175	**ºC**
Maximum Thermal Resistance	Junction to Lead, L=3/8"	$R_{\theta JL}$	15	**ºC/W**
	Junction to End Tab	$R_{\theta JE}$	10	

Notes:
1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.
2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.

Axial Leaded



SMS



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: RH0105B**	**DOC**

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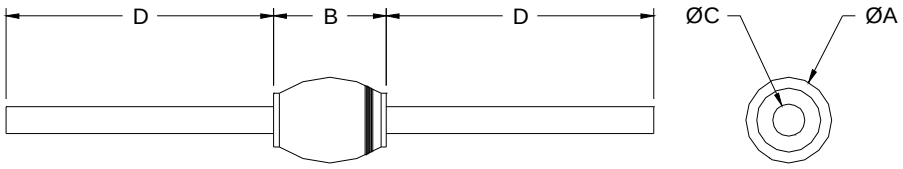
SPD502-SPD506 and SPD502SMS - SPD506SMS

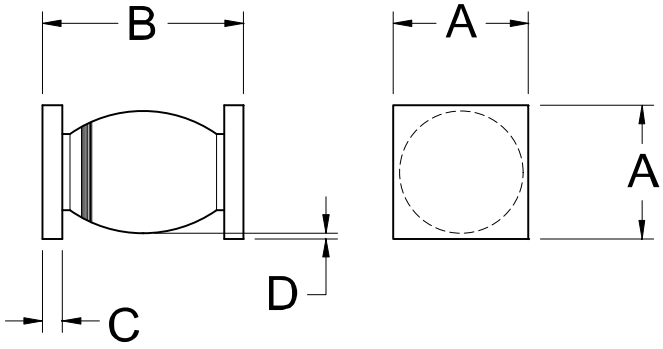
Electrical Characteristics	Symbol	Max	Units
Instantaneous Forward Voltage Drop (I_F = 5 Adc, T_A = 25ºC, 300 µs pulse)	V_F	1.6	**Vdc**
Instantaneous Forward Voltage Drop (I_F = 5Adc, T_A = -55ºC, 300 µs pulse)	V_F	1.75	**Vdc**
Reverse Leakage Current (Rated V_R, T_A = 25ºC, 300 µs pulse minimum)	I_R	10	**µA**
Reverse Leakage Current (Rated V_R, T_A = 100ºC, 300 µs pulse minimum)	I_R	1	**mA**
Junction Capacitance (V_R = 10 Vdc, T_A = 25ºC, f = 1MHz)	C_J	50	**pF**
Reverse Recovery Time (**I_F** = 500 mA, I_R = 1A, I_{RR} = 0.25A, T_A = 25ºC)	t_{rr}	40	**nsec**

Case Outline: (Axial)



DIMENSIONS		
DIM	**MIN**	**MAX**
A	.140”	.170”
B	.170”	.230”
C	.047”	.053”
D	1.00”	---

Case Outline: Surface Mount Square Tab



DIMENSIONS		
DIM	**MIN**	**MAX**
A	.172”	.180”
B	.220”	.270”
C	.020”	.035”
D	.002”	---