



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

SPD502-SPD506 and SPD502SMS - SPD506SMS

5 AMP
200–600 Volts
40 nsec
HYPER FAST RECTIFIER

DESIGNER'S DATA SHEET

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/}

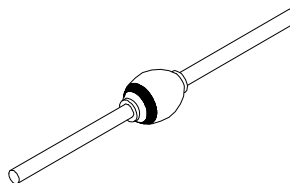
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SPD502	V_{RRM}	200	Volts
	SPD503		300	
	SPD504	V_{RWM}	400	
	SPD505		500	
	SPD506	V_R	600	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A = 25^\circ\text{C}$)		I_o	5	Amps
Surge Current (8.3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

Notes:

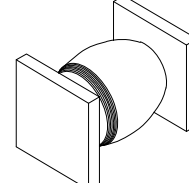
^{1/} For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.

^{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



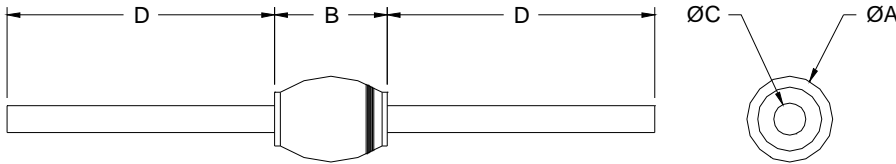
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**SPD502-SPD506
 and
 SPD502SMS - SPD506SMS**

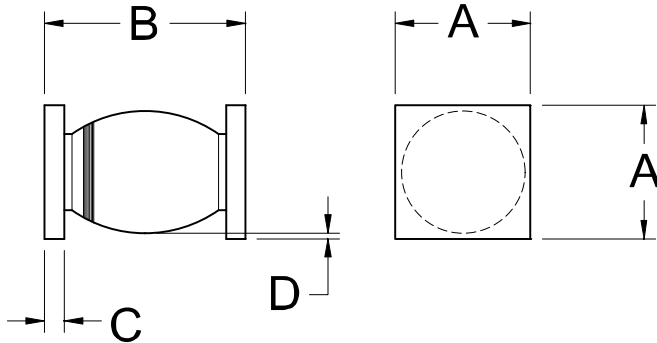
Electrical Characteristics	Symbol	Max	Units
Instantaneous Forward Voltage Drop ($I_F = 5 \text{ Adc}$, $T_A = 25^\circ\text{C}$, 300 μs pulse)	V_F	1.6	Vdc
Instantaneous Forward Voltage Drop ($I_F = 5 \text{ Adc}$, $T_A = -55^\circ\text{C}$, 300 μs pulse)	V_F	1.75	Vdc
Reverse Leakage Current (Rated V_R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