



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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SPD5802 thru SPD5806 and SPD5802SMS thru SPD5806SMS

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD

Screening ^{2/}

 = Not Screened

 TX = TX Level

 TXV = TXV

 S = S Level

Package Type

 = Axial Leaded

 SMS = Surface Mount Square Tab

Voltage/Family

5802 = 50V

5804 = 100V

5806 = 150V

**LOW LEAKAGE
2.0 AMPS
50 – 150 VOLTS
25 ns HYPERFAST RECOVERY
RECTIFIER**

FEATURES:

- Hyper Fast Reverse Recovery: 25ns Maximum ^{4/}
- PIV to 150 Volts (Voltages Up To 300V Available)
- Hermetically Sealed
- Low Forward Voltage Drop
- Void Free Chip Construction
- For High Efficiency Applications
- Available in Axial & Square Tab Versions
- TX, TXV, and S-Level Screening Available ^{2/}
- Low Leakage Replacement for: 1N 5802, US thru 1N5806, US

MAXIMUM RATINGS ^{3/}

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD5802 V_{RRM} SPD5804 V_{RWM} SPD5806 V_R	50 100 150	Volts
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, $T_A = 25^\circ C$)	I_O	2.0	Amps
Peak Surge Current (8.3ms pulse, half sine wave superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A = 25^\circ C$)	I_{FSM}	50	Amps
Operating & Storage Temperature	T_J and T_{STG}	-65 to +175	$^\circ C$
Thermal Resistance	Junction to Lead for Axial, $L = .375"$ Junction to End Tab for Surface Mount	38 25	$^\circ C/W$

NOTES:

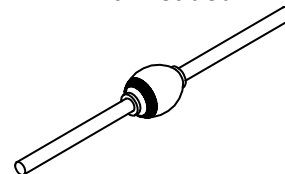
^{1/} For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

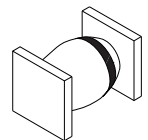
^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C.

^{4/} $I_F = 500mA$, $I_R = 1A$, $I_{RR} = 250mA$, $T_A = 25^\circ C$

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 #: RC0107B

DOC



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**SPD5802 thru SPD5806
 and
 SPD5802SMS thru SPD5806SMS**

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
		MAX	
Instantaneous Forward Voltage Drop $I_F = 2.0 \text{ Adc}, T_A = +25^\circ\text{C}, 300 - 500\mu\text{s pulse}$ $I_F = 2.0 \text{ Adc}, T_A = -55^\circ\text{C}, 300 - 500\mu\text{s pulse}$	V_{F1} V_{F2}	.975 1.1	Vdc
Reverse Leakage Current (Rated $V_R, T_A = +25^\circ\text{C}$) (Rated $V_R, T_A = +100^\circ\text{C}$)	I_{R1} I_{R2}	1 100	μA
Junction Capacitance $V_R = 10 \text{ Vdc}, f = 1\text{MHz}, T_A = 25^\circ\text{C}$	C_J	45	pF
Maximum 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}	25	ns

NOTES:

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- 2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- 4/ $I_F = 500\text{mA}, I_R = 1\text{A}, I_{RR} = 250\text{mA}, T_A = 25^\circ\text{C}$

Package Outlines:

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	---	.140	A	.134	.155
B	.190	.230	B	.230	.280
C	.027	.033	C	.022	.028
D	1.00	---	D	.002	---

AXIAL

SMS