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

SPD5186 Thru SPD5192
and
SPD5186SMS Thru SPD5192SMS

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
B = Axial w/ .040" lead diameter
SMS = Surface Mount Square Tab

Voltage

5186=100V	5190=600V
5187=200V	5191=800V
5188=400V	5192=1000V

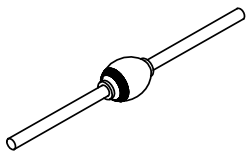
3 Amps
150-200 nsec
100-1000 V
Fast Recovery Rectifier

Features:
- **Fast Recovery: 150-200 nsec maximum**
- **Low Reverse Leakage Current**
- **PIV to 1000 Volts**
- **Hermetically Sealed**
- **High Surge Rating**
- **Low Thermal Resistance**
- **Faster Recovery Devices Available – Contact Factory**
- **TX, TXV, and Space Level Screening Available**[2/]
- **Replacement for 1N5186, 1N5187, 1N5188, and 1N5190**

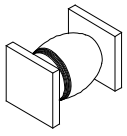
Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage SPD5186…SMS SPD5187…SMS SPD5188…SMS SPD5190…SMS SPD5191…SMS SPD5192…SMS	V_{RRM} V_{RWM} V_R	100 200 400 600 800 1000	Volts
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_A = 25 °C)	Io	3	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}	100	Amps
Operating & Storage Temperature	T_{OP} & T_{STG}	-65 to +175	ºC
Maximum Thermal Resistance Junction to Leads, L=3/8" B Variant Junction to End Tab (Surface Mount)	$R_{\theta JL}$ $R_{\theta JL}$ $R_{\theta JE}$	20 25 14	ºC/W

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

Axial



Surface Mount Square Tab

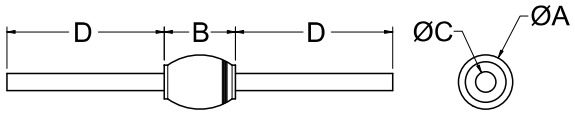


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SPD5186 Thru SPD5192 and SPD5186SMS Thru SPD5192SMS

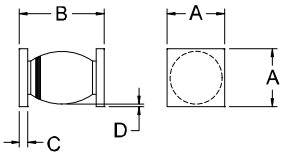
Electrical Characteristics		Symbol	Value	Units
Instantaneous Forward Voltage Drop (I_F =3Adc, T_A = 25 ºC, 300µs Pulse)		V_F	1.3	V_{DC}
Instantaneous Forward Voltage Drop (I_F =3Adc, T_A = -55 ºC, 300µs Pulse)		V_F	1.45	V_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25 ºC , 300µs minimum pulse)		I_R	5	µA
Reverse Leakage Current (Rated V_R, T_A = 100 ºC , 300µs minimum pulse)		I_R	200	µA
Reverse Recovery Time (I_F = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA, T_A = 25 ºC)	SPD5186…SMS-SPD5188…SMS SPD5190…SMS-SPD5192…SMS	t_{RR}	150 200	nsec
Junction Capacitance (V_R = 10V_{DC}, T_A = 25ºC, f = 1MHz)		C_J	40	pF

CASE OUTLINE: Axial



Dimensions		
DIM	**MIN**	**MAX**
A	**---**	**.200”**
B	**---**	**.230”**
C	**.047”**	**.053”**
C (B Variant)	**.038”**	**.042”**
D	**1.00”**	**---**

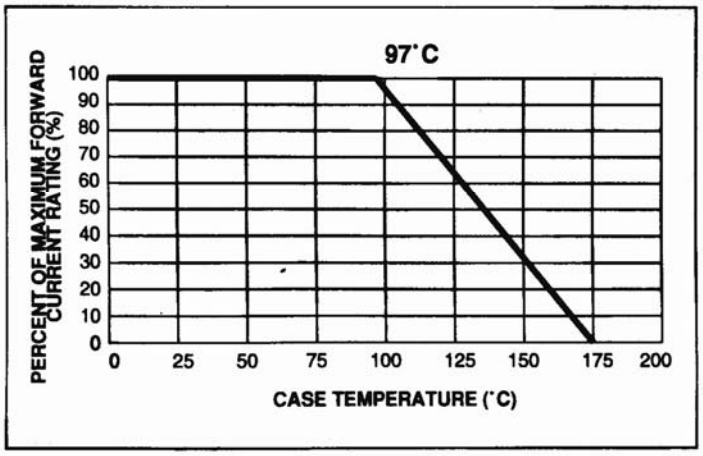
CASE OUTLINE: Surface Mount Square Tab



Dimensions		
DIM	**MIN**	**MAX**
A	**.172”**	**.180”**
B	**.180”**	**.280”**
C	**.022”**	**.028”**
D	**.002”**	**---**

TYPICAL OPERATING CURVES

TA=25˚C Unless otherwise specified



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: RF0009D**	**DOC**