

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

SPD5807 thru SPD5811 SPD5807SMS thru SPD5811SMS SPD5807ASMS thru SPD5811ASMS

6.0 AMPS 50 - 150 VOLTS 40 ns HYPERFAST RECOVERY RECTIFIER

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD

L Screening 2/
= Not Screened
TX = TX Level
TXV = TXV
S = S Level

L Package Type

= Axial Leaded SMS = Surface Mount Square Tab ASMS = SMS with .240" Max. Body Length

Voltage/Family

5807 = 50V 5809 = 100V5811 = 150V

FEATURES:

- Hyper Fast Reverse Recovery: 40ns 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 $\frac{2}{}$
- Replacement for: 1N 5807, US thru 1N5811, US

MAXIMUM RATINGS 3/			
RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage SPD58 And DC Blocking Voltage	V_{RWM}	50 100 150	Volts
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, TA = 25°C)	Io	6.0	Amps
Peak Surge Current (8.3 ms pulse, half sine wave, superimposed on Io, allow junction to reach equilibrium between pulses, T _A = 25°C)	I _{FSM}	125	Amps
Operating & Storage Temperature	T_J and T_{STG}	-65 to +175	°C
Thermal Resistance Junction to Lead for Axial, L = .37 Junction to End Tab for Surface Mod		20 12	°C/W

NOTES:

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

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

Axial Leaded

SMS





SPD5807 thru SPD5811 SPD5807SMS thru SPD5811SMS SPD5807ASMS thru SPD5811ASMS

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ELECTRICAL CHARACTERISTICS 3/							
CHARACTERISTICS		SYMBOL	VALUE	UNIT			
			MAX				
Instantaneous Forward Voltage Drop	I_F = 6.0 Adc , T_A = +25°C, 300 μs pulse I_F = 6.0 Adc , T_A = -55°C, 300 μs pulse	$egin{array}{c} \mathbf{V_{F1}} \ \mathbf{V_{F2}} \end{array}$	0.975 1.08	Vdc			
Reverse Leakage Current	Rated V_R , T_A = +25°C, 300 μ s pulse minimum Rated V_R , T_A =+100°C, 300 μ s pulse minimum	I_{R1} I_{R2}	20 1	μA mA			
Junction Capacitance $V_R = 10 \text{ Vdc}, f = 1 \text{MHz}, T_A = 25 ^{\circ}\text{C}$		$\mathbf{C}_{\mathbf{J}}$	100	pF			
Reverse Recovery Time $I_F = 500 \text{mA}$, $I_R = 1 \text{A}$, $I_{RR} = 250 \text{mA}$, T_A	= 25°C	t _{rr}	40	ns			

Package Outlines:

DIMENSIONS (inches)			DIMENSIONS (inches)			
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum	
A	.130	.170	A	.172	.180	
В		.240	В	.200	.290 (SMS)	
С	.038	.042	В	.200	.240 (ASMS)	
D	1.000		С	.020	.035	
			D	.002		
AXIAI	L		SMS			
$\begin{array}{c c} & & & & \\ & & & \\ \hline \end{array}$				B D	- A -	

NOTES:

- 1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.
- 2/ Screened to MIL-PRF-19500.
- 3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.
- $\frac{1}{4}$ / I_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°C

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	DATA SHEET #: RC0108B	DOC
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