



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

SPD605 thru SPD640 and SPD605SMS thru SPD640SMS

6.0 AMPS
50 – 400 VOLTS
40 ns HYPERFAST RECOVERY
RECTIFIER

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

605 = 50V

610 = 100V

620 = 200V

630 = 300V

640 = 400V

FEATURES:

- Hyper Fast Reverse Recovery: 40ns Maximum ^{4/}
- PIV to 400 Volts
- 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/}
- Replacement for: 1N 5807, US thru 1N5811, US

MAXIMUM RATINGS ^{3/}

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD605	V_{RRM} V_{RWM} V_R	50	Volts
	SPD610		100	
	SPD620		200	
	SPD630		300	
	SPD640		400	
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, T _A = 25°C)		I_O	6.0	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}	125	Amps
Operating & Storage Temperature		T_J and T_{STG}	-65 to +175	°C
Thermal Resistance	Junction to Lead for Axial, L = .375"	R_{0JL}	20	°C/W
	Junction to End Tab for Surface Mount	R_{0JE}	12	

NOTES:

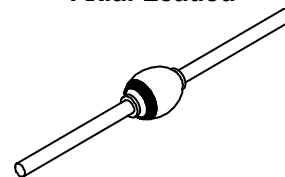
^{1/} For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

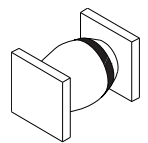
^{3/} Unless Otherwise Specified, All Electrical Characteristics @25°C.

^{4/} I_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°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.

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**SPD605 thru SPD640
 and
 SPD605SMS thru SPD640SMS**

ELECTRICAL CHARACTERISTICS ^{3/}				
CHARACTERISTICS		SYMBOL	VALUE	UNIT
			MAX	
Forward Voltage Drop (pulsed)	$I_F = 6.0 \text{ Adc}, T_A = +25^\circ\text{C}$ $I_F = 6.0 \text{ Adc}, T_A = -55^\circ\text{C}$	V_{F1} V_{F2}	0.975 1.08	Vdc
Reverse Leakage Current (pulsed)	Rated $V_R, T_A = +25^\circ\text{C}$ Rated $V_R, T_A = +100^\circ\text{C}$	I_{R1} I_{R2}	20 1	μA mA
Junction Capacitance $V_R = 10 \text{ Vdc}, f = 1\text{MHz}, T_A = 25^\circ\text{C}$		C_J	100	pF
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}	40	ns

Package Outlines:

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	.130	.170	A	.172	.180
B	---	.240	B	.200	.290 (SMS)
C	.038	.042	C	.020	.035
D	1.000	---	D	.002	---

<p>AXIAL</p>	<p>SMS</p>
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