Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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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 SPD610 SPD620 SPD630 SPD640	V_{RRM} V_{RWM} V_R	50 100 200 300 400	Volts
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, TA = 25°C)		I_O	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 =.375" Junction to End Tab for Surface Mount	$R_{\theta JL}$ $R_{\theta JE}$	20 12	°C/W

NOTES:

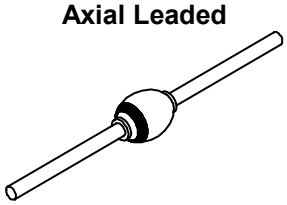
1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

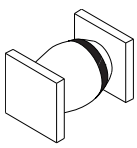
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

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

Axial Leaded



SMS



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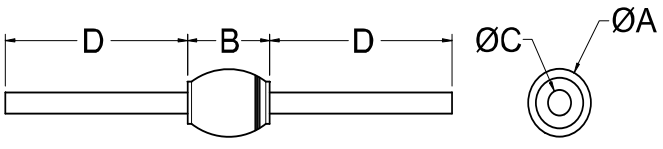
ELECTRICAL CHARACTERISTICS [3/]

CHARACTERISTICS		SYMBOL	VALUE	UNIT
			MAX	
Forward Voltage Drop (pulsed)	I_F = 6.0 Adc , T_A = +25°C I_F = 6.0 Adc , T_A = -55°C	V_{F1} V_{F2}	0.975 1.08	Vdc
Reverse Leakage Current (pulsed)	Rated V_R, T_A = +25°C Rated V_R, T_A =+100°C	I_{R1} I_{R2}	20 1	µA mA
Junction Capacitance V_R = 10 Vdc, f = 1MHz, T_A = 25°C		C_J	100	pF
Reverse Recovery Time I_F = 500mA, I_R = 1A, I_{RR} = 250mA, T_A = 25°C		t_{rr}	40	ns

Package Outlines:

DIMENSIONS (inches)		
DIM.	Minimum	Maximum
A	.130	.170
B	---	.240
C	.038	.042
D	1.000	---

AXIAL



DIMENSIONS (inches)		
DIM.	Minimum	Maximum
A	.172	.180
B	.200	.290 (SMS)
C	.020	.035
D	.002	---

SMS