



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

**SPD6620 thru SPD6625
Series**

**1.5 - 2 AMP
ULTRAFAST RECOVERY RECTIFIER
200 – 1000 VOLTS
45 – 60 nsec**

Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD

L **Screening ^{2/}**
 = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level (for SM, use -S)

L **Package Type**
 = Axial Leaded
 SMS = Surface Mount Square Tab
 SM = Surface Mount Round Tab

Family

6620 = 200 V, 2 A	6623 = 800 V, 1.5 A
6621 = 400 V, 2 A	6624 = 900 V, 1.5 A
6622 = 600 V, 2 A	6625 = 1000 V, 1.5 A

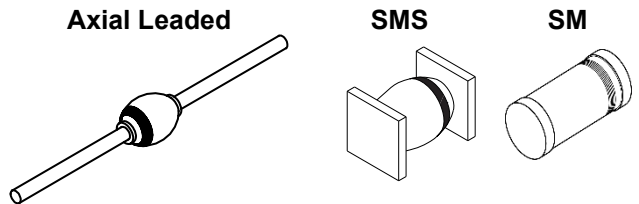
- FEATURES:**
- Ultrafast Reverse Recovery Time 45 - 60 ns Max ^{4/}
 - PIV to 1000 Volts (1200 V Version Available)
 - Hermetically Sealed
 - Low Reverse Leakage Current
 - Rugged Single Chip Construction
 - For High Efficiency Applications
 - Available in Axial, Round Tab & Square Tab Versions
 - Metallurgically Bonded
 - TX, TXV, and S-Level Screening Available ^{2/}
 - Ruggedized Replacement for 1N6620 thru 1N6625, US

MAXIMUM RATINGS ^{3/}

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SPD6620	200	V
	SPD6621	400	
	SPD6622	600	
	SPD6623	800	
	SPD6624	900	
	SPD6625	1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T _L = 25°C)	SPD6620 thru SPD6622 SPD6623 thru SPD6625	2 1.5	A
Peak Surge Current ^{5/} (8.3 msec Pulse, Half Sine Wave Superimposed on I _o , allow junction to reach equilibrium between pulses, T _C = 25°C)	I_{FSM}	20	A
Operating & Storage Temperature	T_{OP} and T_{STG}	-65 to +175	°C
Thermal Resistance	Junction to Lead for Axial, L = .375"	R_{θJL}	38
	Junction to End Tab	R_{θJE}	20

NOTES:

- 1/ For Ordering Information, Price, 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/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp rec. to .25 Amp.
- 5/ SPD6625- I_{FSM} = 15A.
- 6/ SM Device Type SPD6623 & SPD6624 utilize VF & trr limits of SPD6625.





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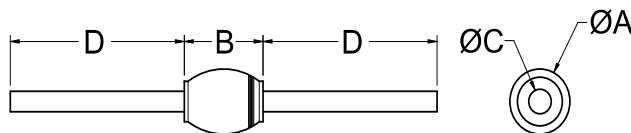
SPD6620 thru SPD6625 Series

ELECTRICAL CHARACTERISTICS^{3/}

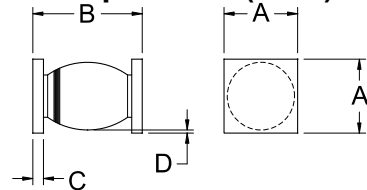
CHARACTERISTICS	SYMBOL	VALUE	UNIT	
Instantaneous Forward Voltage Drop (300 μ s Pulse, $T_A = 25^\circ\text{C}$)	^{6/} V_{F1}	SPD6620 thru SPD6622 @ 1.2A SPD6623 and SPD6624 @ 1.0A SPD6625 @ 1.0A	1.40 1.55 1.75	Vdc
		SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	1.60 1.80 1.95	
Instantaneous Forward Voltage Drop (300 μ s Pulse, $T_A = -55^\circ\text{C}$)	^{6/} V_{F3}	SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	1.80 2.00 2.20	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μ s Pulse Minimum, $T_A = 25^\circ\text{C}$)	I_{R1}	SPD6620 Thru SPD6624 SPD6625	2.0	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μ s Pulse Minimum, $T_A = 100^\circ\text{C}$)	I_{R2}	SPD6620 Thru SPD6624 SPD6625	150 200	μA
Junction Capacitance ($V_R = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1 \text{ MHz}$)	C_J	SPD6620 thru SPD6622 SPD6623 and SPD6624 SPD6625	24 17 13	pf
Maximum Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1 \text{ A}$, $I_{RR} = 250 \text{ mA}$)	^{6/} t_{rr}	SPD6620 thru SPD6622 SPD6623 and SPD6624 SPD6625	45 50 60	ns

DIMENSIONS (inches)				DIMENSIONS (inches)			
DIM.	SPD6620 - SPD6622	SPD6623 - SPD6624	SPD6625	DIM.	SPD6620SMS - SPD6622SMS	SPD6623SMS - SPD6624SMS	SPD6625SMS
A	.100/.128	.100/.120	.115/.128	A	.128/.132	.128/.132	.128/.132
B	.140/.190	.140/.165	.140/.165	B	.190/.240	.190/.230	.190/.230
C	.027/.032	.027/.032	.028 / .033	C	.023/.027	.023/.027	.023/.027
D	1.0 Min	1.0 min	1.0 min	D	.001 min	.001 min	.001 min

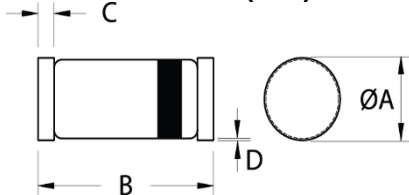
AXIAL^{5/}



Surface Mount Square Tab(SMS)



Surface Mount Round Tab (SM)



DIMENSIONS (inches)		
SPD6620SM – SPD6622SM		
DIM.	MIN.	MAX.
A	.095	.105
B	.190	.210
C	.010	.030
D	---	---

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

DATA SHEET #: RC0102J

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