



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

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

SM = Surface Mount Round Tab

Family

6620 = 200V, 2A 6623 = 800V, 1.5A

6621 = 400V, 2A 6624 = 900V, 1.5A

622 = 600V, 2A 6625 = 1000V, 1.5A

SPD6620 thru SPD6625 Series

1.5 - 2 AMP
ULTRA FAST RECOVERY RECTIFIER
200 — 1000 VOLTS
30 – 60 nsec

FEATURES:

- Ultra Fast Reverse Recovery Time 30-60 ns Max ^{4/}
- PIV to 1000 Volts (1200V 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

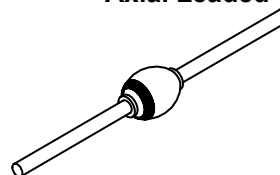
MAXIMUM RATINGS ^{3/}

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD6620	V_{RRM} V_{RWM} V_R	200	Volts
	SPD6621		400	
	SPD6622		600	
	SPD6623		800	
	SPD6624		900	
	SPD6625		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_L = 25^\circ\text{C}$)	SPD6620 thru SPD6622 SPD6623 thru SPD6625	I_O	2 1.5	Amps
Peak Surge Current ^{5/} (8.3 msec Pulse, Half Sine Wave Superimposed on I_O , allow junction to reach equilibrium between pulses, $T_C = 25^\circ\text{C}$)		I_{FSM}	20	Amps
Operating & Storage Temperature		T_{OP} and T_{STG}	-65 to +175	$^\circ\text{C}$
Thermal Resistance,	Junction to Lead for Axial, $L = .375"$ Junction to End Tab	$R_{\theta JL}$ $R_{\theta JE}$	38 20	$^\circ\text{C/W}$

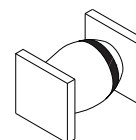
NOTES:

- ^{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- $I_{FSM} = 15\text{A}$.
^{6/} SM Device Type SPD6623 & SPD6624 utilize VF & trr limits of SPD6625.

Axial Leaded



SMS



SM



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

DATA SHEET #: RC0102G

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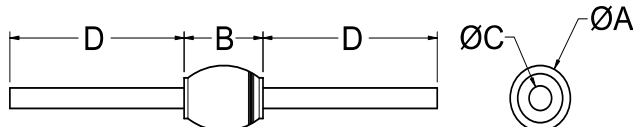
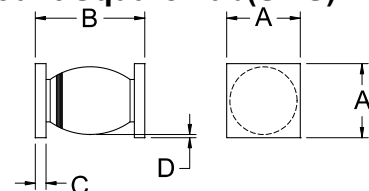
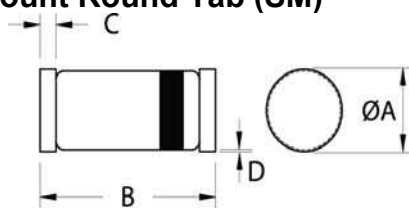
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SPD6620 thru SPD6625 Series

ELECTRICAL CHARACTERISTICS ^{3/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop (300 μ s Pulse, $T_A = 25^\circ\text{C}$)	^{5/} V_{F1}	SPD6620 thru SPD6622 @ 1.2A SPD6623 and SPD6624 @ 1.0A SPD6625 @ 1.0A	1.40 1.55 1.75
		SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	1.60 1.80 1.95
	^{5/} V_{F2}		
Instantaneous Forward Voltage Drop (300 μ s Pulse, $T_A = -55^\circ\text{C}$)	^{5/} V_{F3}	SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	1.80 2.00 2.20
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 ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{mA}$)	^{5/} t_{rr}	SPD6620 thru SPD6622 SPD6623 and SPD6624 SPD6625	30 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) 				<table><tr><th colspan="3">DIMENSIONS (inches)</th></tr><tr><th colspan="3">SPD6620SM – SPD6622SM</th></tr><tr><th>DIM.</th><th>MIN.</th><th>MAX.</th></tr><tr><td>A</td><td>.095"</td><td>.105"</td></tr><tr><td>B</td><td>.190"</td><td>.210"</td></tr><tr><td>C</td><td>.010"</td><td>.030"</td></tr><tr><td>D</td><td>---</td><td>---</td></tr></table>				DIMENSIONS (inches)			SPD6620SM – SPD6622SM			DIM.	MIN.	MAX.	A	.095"	.105"	B	.190"	.210"	C	.010"	.030"	D	---	---
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