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
SPD6620SMS thru SPD6625SMS

1.5 - 2 AMPS
200 ─ 1000 VOLTS
30 – 60 nsec ULTRA FAST 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

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

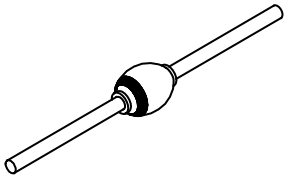
FEATURES:
- **Ultra Fast Reverse Recovery Time 30-60 ns Max** [4/]
- **PIV to 1000 Volts (1200V Version Available)**
- **Hermetically Sealed**
- **Low Reverse Leakage Current**
- **Rugged Single Chip Construction**
- **For High Efficiency Applications**
- **Available in Axial, Round Tab & Square Tab Versions**
- **Metallurgically Bonded**
- **TX, TXV, and S-Level Screening Available**
- **Ruggedized Replacement for: 1N 6620 thru 1N6625, US**

MAXIMUM RATINGS [3/]

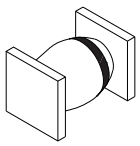
RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD6620	V_{RRM} V_{RWM} V_R	200	Volts
	SPD6621		400	
	SPD6622		600	
	SPD6623		800	
	SPD6624		900	
	SPD6625		1000	
Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, T_L = 25°C)	SPD6620 thru SPD6622	I_O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

NOTES:
1/ For Ordering Information, Price, and Availability- Contact Factory.
2/ Screened to MIL-PRF-19500.
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.
4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp rec. to .25 Amp.
5/ SPD6625- I_{FSM} = 15A

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.	DATA SHEET #: RC0102C	DOC

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SPD6620 thru SPD6625
SPD6620SMS thru SPD6625SMS

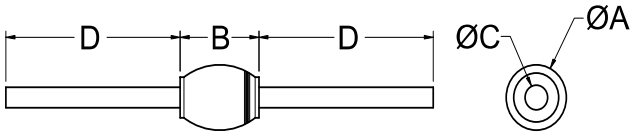
ELECTRICAL CHARACTERISTICS [3/]

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Instantaneous Forward Voltage Drop (300 µs Pulse, T_A = 25°C)	SPD6620 thru SPD6622 @ 1.2A SPD6623 and SPD6624 @ 1.0A SPD6625 @ 1.0A	V_{F1}	1.40 1.55 1.75	Vdc
	SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	V_{F2}	1.60 1.80 1.95	
Instantaneous Forward Voltage Drop (300 µs Pulse, T_A = -55°C)	SPD6620 thru SPD6622 @ 2.0A SPD6623 and SPD6624 @ 1.5A SPD6625 @ 1.5A	V_{F3}	1.80 2.00 2.20	Vdc
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 25°C)	SPD6620 Thru SPD6624 SPD6625	I_{R1}	2.0	µA
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 100°C)	SPD6620 Thru SPD6624 SPD6625	I_{R2}	150 200	µA
Junction Capacitance (VR = 10Vdc, T_A = 25°C , f = 1MHz)	SPD6620 thru SPD6622 SPD6623 and SPD6624 SPD6625	C_J	24 17 13	pf
Maximum Reverse Recovery Time (I_F = 500mA, I_R = 1A, I_{RR} = 250mA)	SPD6620 thru SPD6622 SPD6623 and SPD6624 SPD6625	t_{rr}	30 50 60	ns

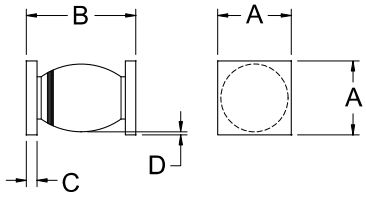
DIMENSIONS (inches)			
DIM.	SPD6620 - SPD6622	SPD6623 - SPD6624	SPD6625
A	.100/ .128	.100/ .120	.115/ .128
B	.140 / .190	.140/ .165	.140/ .165
C	.027 /.032	.027/ .032	.028 / .033
D	1.0 Min	1.0 min	1.0 min

DIMENSIONS (inches)			
DIM.	SPD6620SMS - SPD6622SMS	SPD6623SMS - SPD6623SMS	SPD6625SMS
A	.128/ .132	.128/ .132	.128/ .132
B	.190/ .240	.190/ .215	.190/ .215
C	.023/ .027	.023/ .027	.023/ .027
D	.001 min	.001 min	.001 min

AXIAL [5/]



SMS [5/]



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4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp rec. to .25 Amp.
5/ For information on operating curves, contact factory.