Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SPD5615 thru SPD5623
and
SPD5615SMS thru SPD5623SMS

1.0 AMP
200 – 1000 VOLTS
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/Voltage
- 5615 = 200 V
- 5617 = 400 V
- 5619 = 600 V
- 5621 = 800 V
- 5623 = 1000 V

FEATURES:
- **Fast Recovery: 150-500 ns Maximum** [4/]
- **Single Chip Construction**
- **PIV to 1000 Volts**
- **Low Thermal Resistance**
- **Low Reverse Leakage Current**
- **Hermetically Sealed**
- **High Surge Rating**
- **Available in Axial and Surface Mount Versions**
- **TX, TXV, and S-Level Screening Available** [2/]
- **Replacement for 1N5615 thru 1N5623 Series**
- **Ultra Fast and Hyper Fast Versions available**

MAXIMUM RATINGS [3/]

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SPD5615 SPD5617 SPD5619 SPD5621 SPD5623	V_{RRM} V_{RWM} V_R	200 400 600 800 1000	Volts
Rectified Forward Forward Current (Resistive Load, 60 Hz, Sine Wave)	T_A = 55°C T_A = 100°C	I_{O1} I_{O2}	1.00 0.75	Amp
Peak Surge Current (8.3 msec Pulse, Half Sine Wave Superimposed on Io, allow junction to reach equilibrium between pulses, T_A = 100°C)		I_{FSM}	25	Amps
Operating & Storage Temperature		T_{OP} and T_{STG}	-65 to +175	°C
Thermal Resistance, Junction to Lead, L = 3/8" (Axial) Junction to End Tab (SMS)		$R_{\theta JL}$ $R_{\theta JE}$	38 13	°C/W

NOTES:

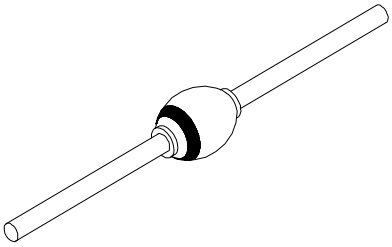
1/ For Ordering Information, Price, and Availability- Contact Factory.

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

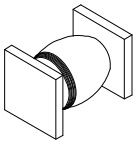
3/ Unless Otherwise Specified, All Electrical Characteristics @25ºC.

4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp, I_{RR} to .25 Amp.

Axial Leaded



SMS



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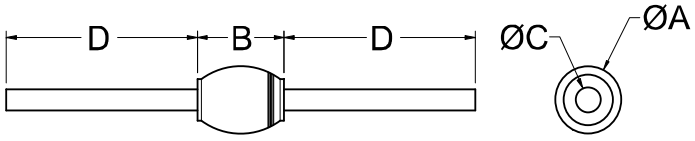
SPD5615 thru SPD5623 and SPD5615SMS thru SPD5623SMS

ELECTRICAL CHARACTERISTICS 3/ 5/

CHARACTERISTICS		SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage Drop (I_F = 3Adc, 300- 500 µs Pulse, T_A = 25°C)		V_F	1.60	Vdc
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 25°C)		I_{R1}	.5	µA
Maximum Reverse Leakage Current (Rated V_R, 300 µs Pulse Minimum , T_A = 100°C)		I_{R2}	25	µA
Junction Capacitance (V_R = 12Vdc, T_A = 25°C , f = 1MHz)	SPD5615 SPD5617 SPD5619 SPD5621 SPD5623	C_J	45 35 25 20 15	pf
Maximum Reverse Recovery Time 4/	SPD5615 SPD5617 SPD5619 SPD5621 SPD5623	t_{rr}	150 150 250 300 500	ns

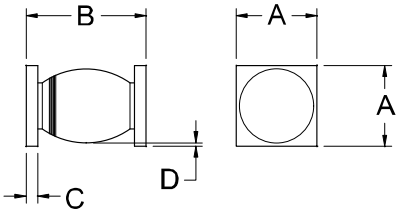
Axial Leaded Case Outline:

DIMENSIONS		
DIM.	MIN.	MAX.
A	---	.150”
B	.140	.190”
C	.027”	.033”
D	.95”	---



Square Tab Surface Mount Case Outline:

DIMENSIONS		
DIM.	MIN.	MAX.
A	.128”	.132”
B	.190”	.240”
C	.022”	.028”
D	.001”	---



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 @25ºC.
4/ Recovery Conditions: I_F = 0.5 Amp, I_R = 1.0 Amp, I_{RR} to .25 Amp.
5/ For information on operating curves, contact factory.