



# Solid State Devices, Inc.

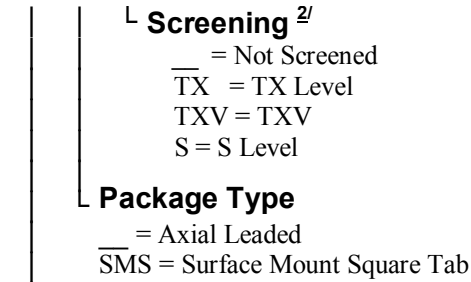
14701 Firestone Blvd \* La Mirada, Ca 90638  
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ssdi@ssdi-power.com \* www.ssdi-power.com

## SPD5615 thru SPD5623 and SPD5615SMS thru SPD5623SMS

### Designer's Data Sheet

#### Part Number/Ordering Information <sup>1/</sup>

SPD



**Family/Voltage**

5615 = 200 V
5617 = 400 V
5619 = 600 V
5621 = 800 V
5623 = 1000 V

**1.0 AMP  
200 — 1000 VOLTS  
FAST RECOVERY RECTIFIER**

#### FEATURES:

- Fast Recovery: 150-500 ns Maximum <sup>4/</sup>
- 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 <sup>2/</sup>
- Replacement for 1N5615 thru 1N5623 Series
- Ultra Fast and Hyper Fast Versions available

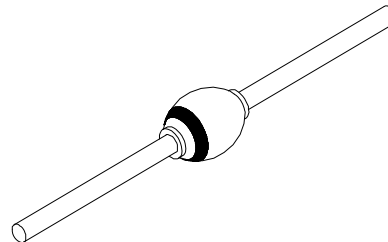
#### MAXIMUM RATINGS <sup>3/</sup>

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

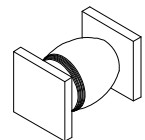
#### NOTES:

- 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,  $I_{RR}$  to .25 Amp.

**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 #: RC0104C**

**DOC**



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**SPD5615 thru SPD5623  
 and  
 SPD5615SMS thru SPD5623SMS**

<b>ELECTRICAL CHARACTERISTICS <sup>3/ 5/</sup></b>			
CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage Drop ( $I_F = 3A_{dc}$ , 300- 500 $\mu s$ Pulse, $T_A = 25^\circ C$ )	$V_F$	1.60	Vdc
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu s$ Pulse Minimum , $T_A = 25^\circ C$ )	$I_{R1}$	.5	$\mu A$
Maximum Reverse Leakage Current (Rated $V_R$ , 300 $\mu s$ Pulse Minimum , $T_A = 100^\circ C$ )	$I_{R2}$	25	$\mu A$
Junction Capacitance ( $V_R = 12V_{dc}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )	$C_J$	SPD5615: 45 SPD5617: 35 SPD5619: 25 SPD5621: 20 SPD5623: 15	pf
Maximum Reverse Recovery Time <sup>4/</sup>	$t_{rr}$	SPD5615: 150 SPD5617: 150 SPD5619: 250 SPD5621: 300 SPD5623: 500	ns

Axial Leaded Case Outline:	DIMENSIONS	Square Tab Surface Mount Case Outline:	DIMENSIONS																														
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