



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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Designer's Data Sheet

Part Number/Ordering Information ^{1/}

SPD

—	—	—	L	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

SPD5615 thru SPD5623

and

SPD5615SMS thru SPD5623SMS

1.0 AMP

200 — 1000 VOLTS

FAST RECOVERY RECTIFIER

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	V_{RRM}	200	Volts
	SPD5617		400	
	SPD5619		600	
	SPD5621	V_R	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:

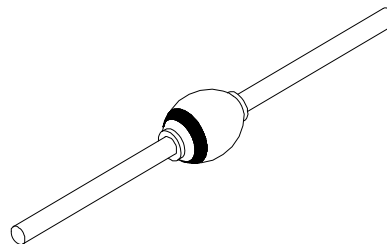
1/ For Ordering Information, Price, and Availability- Contact Factory.

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

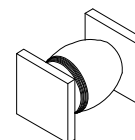
3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

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**

ELECTRICAL CHARACTERISTICS ^{3/ 5/}

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Instantaneous Forward Voltage Drop ($I_F = 3A_{dc}$, 300- 500 μs Pulse, $T_A = 25^\circ C$)	V_F	1.60	Vdc
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum, $T_A = 25^\circ C$)	I_{R1}	.5	μA
Maximum Reverse Leakage Current (Rated V_R , 300 μs Pulse Minimum, $T_A = 100^\circ C$)	I_{R2}	25	μA
Junction Capacitance ($V_R = 12V_{dc}$, $T_A = 25^\circ C$, $f = 1MHz$)	C_J	45 35 25 20 15	pf
Maximum Reverse Recovery Time ^{4/}	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. 4/ Recovery Conditions: $I_F = 0.5$ Amp, $I_R = 1.0$ Amp, I_{RR} to .25 Amp.
2/ Screening Based on MIL-PRF-19500. Screening Flows Available on Request. 5/ For information on operating curves, contact factory.
3/ Unless Otherwise Specified, All Electrical Characteristics @25°C.

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