



PRELIMINARY

Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
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**SPD48SM & SMS
Thru
SPD51SM & SMS**

DESIGNER'S DATA SHEET

**200 mAMP
50-125 Volts
5 nsec
HYPER FAST RECTIFIER**

Part Number / Ordering Information^{1/}

SPD --- --

L Screening^{2/} = None
TX = TX Level
TXV = TXV Level
S = S Level

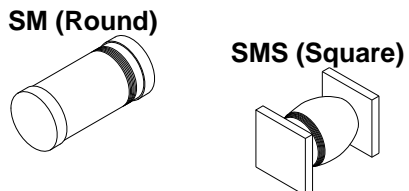
L Package
SM = Surface Mount Round Tab
SMS = Surface Mount Square Tab

L Voltage 48 = 50 V
49 = 75 V
50 = 100 V
51 = 125 V

- Features:**
- Hyper Fast Recovery: 5 nsec maximum
 - Subminiature Surface Mount Package
 - Square Tab Mounting (Round Tabs Available)
 - Hermetically Sealed
 - Planar Passivated Chip
 - For High Efficiency Applications
 - Replaces 1N4148 – 1N4151 types
 - TX, TXV and S – Level Screening Available^{2/}

Maximum Ratings	Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SPD48SM & SMS SPD49SM & SMS SPD50SM & SMS SPD51SM & SMS	V_{RRM} V_{RWM} V_R	50 75 100 125 Volts
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)	I_o	200	mAmps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_o , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$)	I_{FSM}	4	Amps
Operating & Storage Temperature	Top & Tstg	-65 to +200	°C
Maximum Thermal Resistance Junction to End Tab	$R_{\theta JE}$	0.35	°C/mW

^{1/} For Ordering Information, Price, and Availability – Contact Factory.
^{2/} Screening Based on MIL-PRF-19500. Screening Flows Available on Request.





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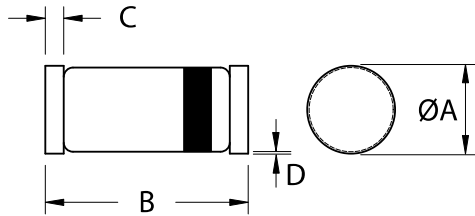
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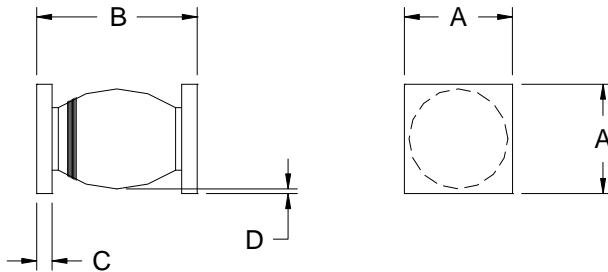
Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300-500 μs pulse)	$I_F = 10\text{mA}_{\text{DC}}$ $I_F = 100\text{mA}_{\text{DC}}$	V_{F1}	1.0 1.2	V_{DC}
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, 300-500 μs pulse)	$I_F = 10\text{mA}_{\text{DC}}$ $I_F = 100\text{mA}_{\text{DC}}$	V_{F2}	1.1 1.3	V_{DC}
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, 300 μs minimum pulse)		I_{R1}	400	nA
Reverse Leakage Current (Rated V_R , $T_A = 100^\circ\text{C}$, 300 μs minimum pulse)		I_{R2}	40	μA
Junction Capacitance ($V_R = 10\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)		C_J	2.8	pF
Reverse Recovery Time ($I_F = 50\text{mA}$, $I_R = 100\text{mA}$, $I_{RR} = 25\text{mA}$, $T_A = 25^\circ\text{C}$)		t_{rr}	5	nsec

Case Outline: Round Tab (SM)



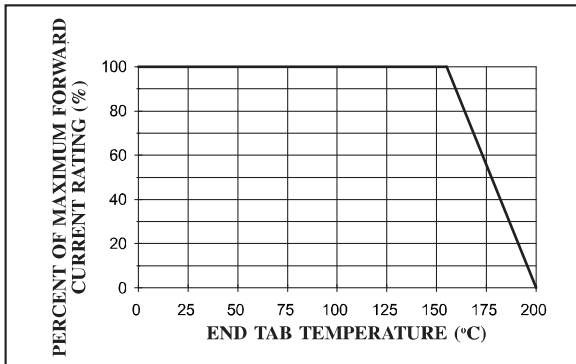
DIMENSIONS		
DIM	MIN	MAX
A	0.054"	0.085"
B	---	0.150"
C	0.010"	0.028"
D	.001"	---

Case Outline: Square Tab (SMS)

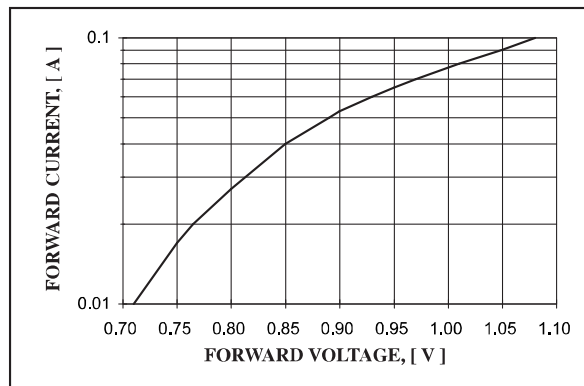


DIMENSIONS SDR1304 & SDR1306		
DIM	MIN	MAX
A	0.065"	0.085"
B	---	0.200"
C	0.022"	0.028"
D	0.001"	---

TYPICAL OPERATING CURVES
 ($T_A = 25^\circ\text{C}$ unless otherwise specified)



FORWARD VOLTAGE



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

DATA SHEET #: RH0085D

DOC