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PRELIMINARY

SOLID STATE DEVICES, INC.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

SPD48SM & SMS thru SPD51SM & SMS

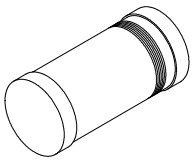
Designer's Data Sheet

200 mAMP 50 - 125 VOLTS 5 nsec HYPER FAST RECTIFIER

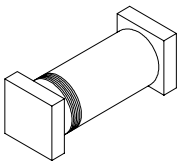
FEATURES:

- **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 Space Level Screening Available**

SURFACE MOUNT ROUND TAB "SM"



SURFACE MOUNT SQUARE TAB "SMS"



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, 60Hz, Sine Wave, T_A = 25 °C		**Io**	**200**	**mAmps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on Io, allow junction to reach equilibrium between pulses, T_A = 25°C)		I_{FSM}	**4**	**Amps**
Operating and Storage Temperature		T_{OP} & T_{STG}	**-65 TO +200**	**°C**
Maximum Thermal Resistance Junction to End Tab		$R_{\theta JE}$	**0.35**	**°C/mW**

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

DATA SHEET #: RH0085C

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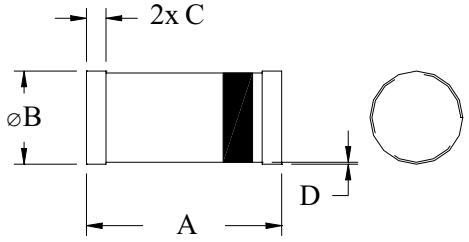
Electrical Characteristics	SYMBOL	MAXIMUM	UNITS
Instantaneous Forward Voltage Drop (I_F = 10 mA_{DC} / I_F = 100 mA_{DC}) (T_A = 25°C, 300 - 500µs Pulse)	V_{F1}	**1.0** **1.2**	V_{DC}
Instantaneous Forward Voltage Drop (I_F = 10 mA_{DC} / I_F = 100 mA_{DC}) (T_A = -55°C, 300 - 500µs Pulse)	V_{F2}	**1.1** **1.3**	V_{DC}
Reverse Leakage Current (Rated V_R , T_A = 25°C, 300 µs minimum Pulse)	I_{R1}	**400**	**nA**
Reverse Leakage Current (Rated V_R , T_A = 100°C, 300 µs minimum Pulse)	I_{R2}	**40**	µA
Junction Capacitance (V_R = 10 V_{DC}, T_A = 25°C, f = 1 MHz)	C_J	**2.8**	**pF**
Reverse Recovery Time (I_F = 50 mA, I_R = 100 mA, I_{RR} = 25 mA, T_A = 25°C)	t_{RR}	**5**	**nsec**

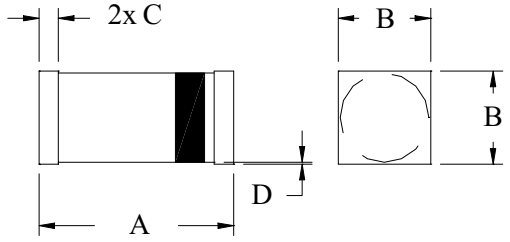
CASE OUTLINE: ROUND TAB "SM"

DIMENSIONS		
DIM	MIN.	MAX.
A	--	.150"
B	.054"	.085"
C	.010"	.028"
D	.001"	--

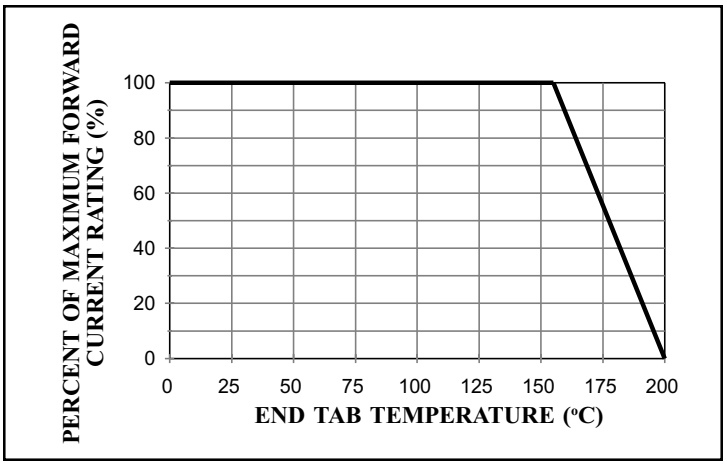


CASE OUTLINE: SQUARE TAB "SMS"

DIMENSIONS		
DIM	MIN.	MAX.
A	--	.200"
B	.065"	.085"
C	.022"	.028"
D	.001"	--



TYPICAL OPERATING CURVES
(T_A = 25°C unless otherwise specified)



FORWARD VOLTAGE