



## Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638

Phone: (562) 404-4474 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* www.ssdi-power.com

# SDR9JF thru SDR9MF and SDR9JFSMS thru SDR9MFSMS Series

## Designer's Data Sheet

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

SDR9

— — —

#### Screening <sup>2/</sup>

— = Not Screened

TX = TX Level

TXV = TXV

S = S Level

#### Package Type

— = Axial Leaded

SMS = Surface Mount Square Tab

ASMS = SMS with .145/.155" End Tab Size

#### Voltage/Family

JF = 600V

KF = 800V

MF = 1000V

9.0 AMPS

600 — 1000 VOLTS

250 ns typical FAST RECOVERY  
RECTIFIER

### FEATURES:

- Fast Reverse Recovery: 250ns Maximum <sup>4/</sup>
- PIV to 1000 Volts
- Hermetically Sealed
- Low Reverse Leakage Current
- Single Chip Construction
- Replaces Larger DO-4 Rectifiers
- Low Thermal Resistance
- Available in Axial & Square Tab Versions
- TX, TXV, and S-Level Screening Available <sup>2/</sup>
- Ultra Fast and Hyper Fast Recovery Versions Available- Contact Factory

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

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage And DC Blocking Voltage	SDR9JF & SDR9JFSMS SDR9KF & SDR9KFSMS SDR9MF & SDR9MFSMS  $V_{RRM}$ $V_{RWM}$ $V_R$	600 800 1000	Volts
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$ )	$I_O$	9.0	Amps
Peak Surge Current (8.3 ms pulse, half sine wave, superimposed on $I_O$ , allow junction to reach equilibrium between pulses, $T_A = 25^\circ\text{C}$ )	$I_{FSM}$	150	Amps
Operating & Storage Temperature	$T_J$ and $T_{STG}$	-65 to +175	$^\circ\text{C}$
Thermal Resistance	Junction to Lead for Axial, $L = .125"$ Junction to End Tab for Surface Mount  $R_{\theta JL}$ $R_{\theta JE}$	8 4	$^\circ\text{C/W}$

### NOTES:

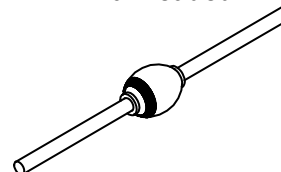
<sup>1/</sup> For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

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

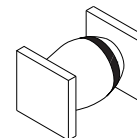
<sup>3/</sup> Unless Otherwise Specified, All Electrical Characteristics @25°C.

<sup>4/</sup>  $I_F = 500\text{mA}$ ,  $I_R = 1\text{A}$ ,  $I_{RR} = 250\text{mA}$ ,  $T_A = 25^\circ\text{C}$

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 #: RC0056D**

**DOC**



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**SDR9JF thru SDR9MF  
and  
SDRJFSMS thru SDRMFSMS  
Series**

<b>ELECTRICAL CHARACTERISTICS <sup>3/</sup></b>				
<b>CHARACTERISTICS</b>		<b>SYMBOL</b>	<b>VALUE</b>	<b>UNIT</b>
			<b>MAX</b>	
<b>Instantaneous Forward Voltage Drop</b> $I_F = 9.0 \text{ Adc}$ , 300-500 $\mu\text{s}$ pulse	$T_A = +25^\circ\text{C}$	$V_{F1}$	1.15	Vdc
	$T_A = -55^\circ\text{C}$	$V_{F2}$	1.30	
<b>Reverse Leakage Current</b> Rated $V_R$ , 300 $\mu\text{s}$ pulse minimum	$T_A = +25^\circ\text{C}$	$I_{R1}$	1.0	$\mu\text{A}$
	$T_A = +100^\circ\text{C}$	$I_{R2}$	50	
<b>Junction Capacitance</b> $V_R = 10 \text{ Vdc}$ , $f = 1\text{MHz}$ , $T_A = 25^\circ\text{C}$		$C_J$	50	pF
<b>Reverse Recovery Time</b> $I_F = 500\text{mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 250\text{mA}$ , $T_A = 25^\circ\text{C}$		$t_{rr}$	250 typ. 325 max.	ns

**Package Outlines:**

DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	---	.170	A (SMS)	.170	.180
B	.210	.250	A (ASMS)	.145	.155
C	.037	.043	B	.260	.300
D	1.000	---	C	.020	.030
			D	.002	---
<b>AXIAL</b>			<b>SMS</b>		

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