



# Solid State Devices, Inc.

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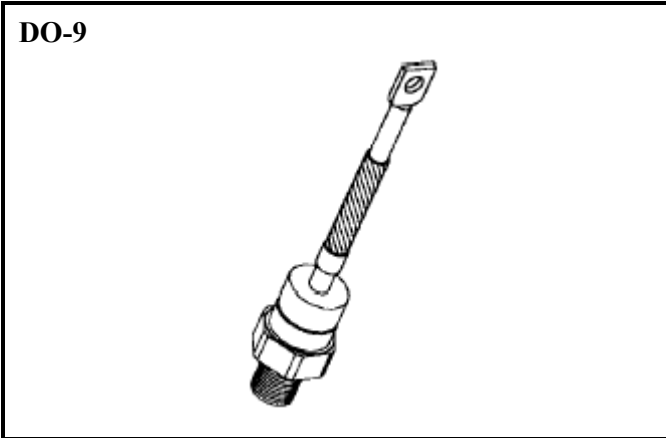
**SDR9400S10  
thru  
SDR9400S20**

## Designer's Data Sheet

### FEATURES:

- Forward Current to 400 Amps
- PIV 1000 to 2000 Volts
- Transient Voltage Rating of 200 Volts Above PIV
- Pressure Contact Device
- Single Chip Construction
- Low Forward Voltage Drop
- Hermetically Sealed
- For High Power Applications
- For Reverse Polarity Version Add Suffix "R"
- Fast Recovery Version Available (0.7 μsec typical)
- Higher Voltage Versions up to 5000 Volts Available
- TX, TXV, and Space Level Screening Available

**400 AMPS  
1000 – 2000 VOLTS  
25 μsec  
STANDARD RECOVERY  
HIGH CURRENT RECTIFIER**



MAXIMUM RATINGS <sup>1/</sup>		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SDR9400S10	V <sub>RRM</sub>	1000	Volts
	SDR9400S15	V <sub>RWM</sub>	1500	
	SDR9400S20	V <sub>R</sub>	2000	
Average Rectified Forward Current Over Full Cycle (Resistive Load, 60 Hz, Sine Wave, T <sub>A</sub> =25°C)		I <sub>O</sub>	400	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> =25°C)		I <sub>FSM</sub>	3500	Amps
Operating and Storage Temperature		T <sub>OP</sub> & T <sub>stg</sub>	-55 to +175	°C
Maximum Thermal Resistance (Junction to Case)		R <sub>θJC</sub>	0.14	°C/W

### NOTES:

<sup>1/</sup> Mounting force = 238.95 in.-lbs. ± 10% for non-lubricated threads  
Typical weight = 220 grams



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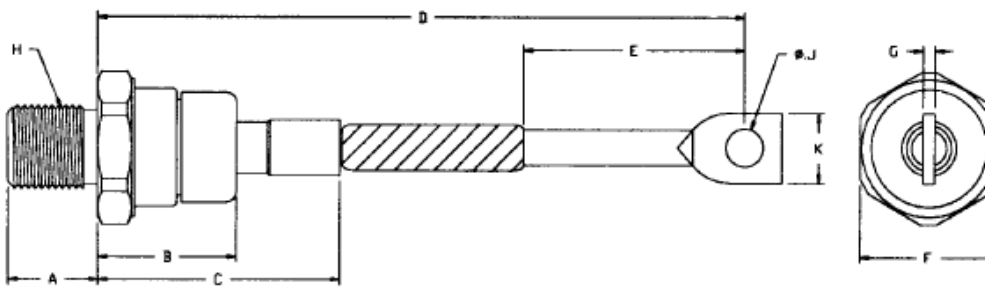
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<b>ELECTRICAL CHARACTERISTICS</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 400$ Amp Pulse, $T_J = 25^\circ\text{C}$ )	$V_F$	1.15	Volts
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 400$ Amp Pulse, $T_J = 175^\circ\text{C}$ )	$V_F$	1.10	Volts
<b>Reverse Leakage Current</b> (Rated $V_R$ pulse, $T_J = 25^\circ\text{C}$ )	$I_R$	2	mA
<b>Reverse Leakage Current, Per Leg</b> (Rated $V_R$ pulse, $T_J = 175^\circ\text{C}$ )	$I_R$	40	mA
<b>Reverse Recovery Time</b> ( $I_{FM} = 400$ A, $V_R = 400$ V, $di/dt = -25 \mu\text{s}$ , $R_S = 10\Omega$ , $C_S = 0.5 \mu\text{F}$ , $T_A = 25^\circ\text{C}$ )	$t_{rr}$	25	$\mu\text{sec}$

**CASE OUTLINE: DO-9**



<b>DIM</b>	<b>MIN</b>	<b>MAX</b>
A	0.79"	0.83"
B	---	1.6"
C	---	2.25"
D	5.00"	6.00"
E	0.8"	2.2" typ
F	1.212"	1.250"
G	0.063"	0.172"
H	0.75-16UNF	
J	0.265"	0.350"
K	0.530"	0.755"

\*For information on curves, contact the Factory Representative for Engineering Assistance.