



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638  
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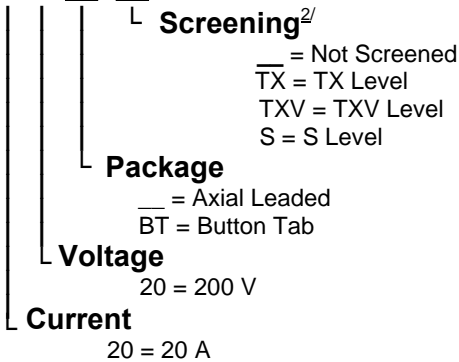
## SRL2020 Series

**20 AMP  
HYPER FAST RECTIFIER**  
200 Volts  
35 nsec

### Designer's Data Sheet

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

SRL2020



#### Features:

- Replaces JEDEC packages: DO-4, TO-254, and TO-257
- Hyper fast recovery
- Low reverse leakage current
- Hermetically sealed void-free construction<sup>3/</sup>
- Monolithic single chip construction
- High surge rating
- Low thermal resistance
- Higher voltages available - contact factory
- Surface mount replacement for 1N5816 and 1N6659
- TX, TXV, and Space level screening available

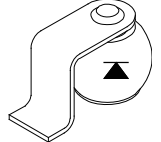
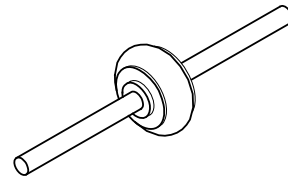
MAXIMUM RATINGS	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	200	Volts
Average Rectified Forward Current (Resistive load, 60Hz sine wave, $T_c=100^\circ\text{C}$ , $T_L=55^\circ\text{C}$ )	$I_O$	20	Amps
Peak Surge Current (8.3 ms pulse, half sine wave superimposed on $I_O$ , allow junction to reach equilibrium between pulses, $T_A=25^\circ\text{C}$ )	$I_{FSM}$	400	Amps
Junction and Storage Temperature	$T_J$ & $T_{STG}$	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to anode terminal	$R_{\theta JC}$	Axial @ 1/8" : 6.0 Button Tab : 1.5	$^\circ\text{C/W}$

#### Notes:

- 1/ For ordering information, price, operating curves, and availability, contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 3/ PIND testing not required on void free devices per MIL-PRF-19500.

Axial Leaded ( — )

SRL Button (BT)



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

DATA SHEET #: RC0155A

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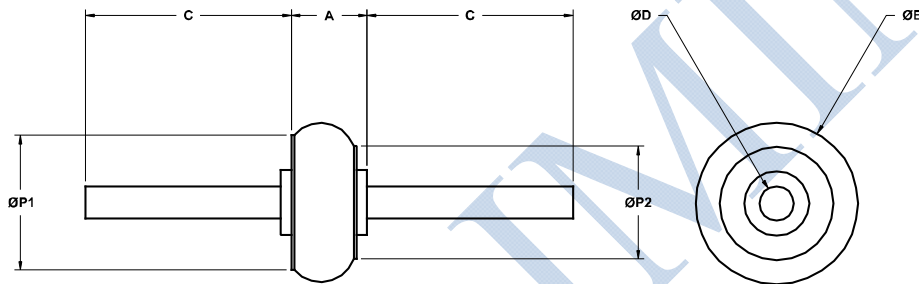
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# SRL2020 Series

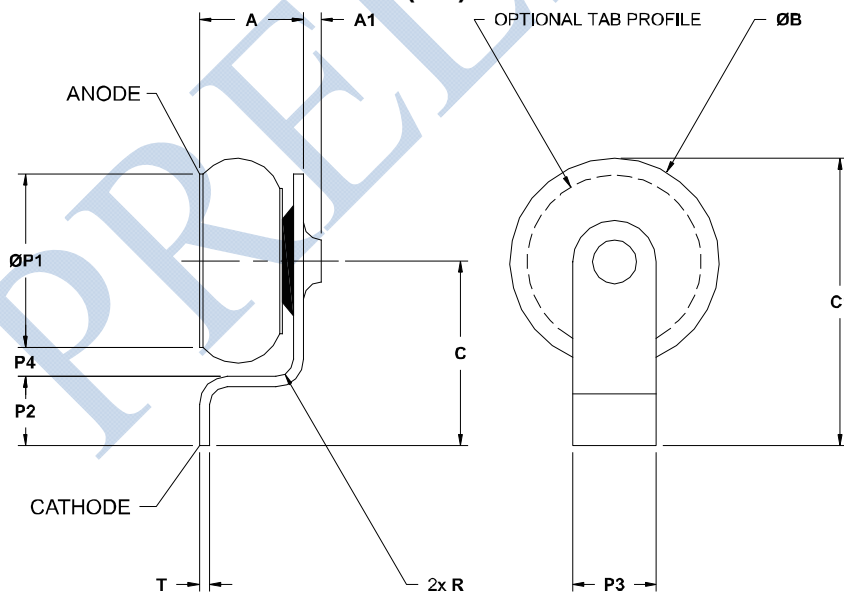
ELECTRICAL CHARACTERISTICS (T <sub>a</sub> = 25 °C unless specified)	Symbol	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> (I <sub>F</sub> = 20A pulsed)	V <sub>F1</sub>	0.95	V
<b>Instantaneous Forward Voltage Drop</b> (I <sub>F</sub> = 10A pulsed, T <sub>A</sub> = -65°C)	V <sub>F2</sub>	1.05	V
<b>Reverse Leakage Current</b> (Rated V <sub>R</sub> , pulsed)	I <sub>R1</sub>	10	μA
<b>Reverse Leakage Current</b> (Rated V <sub>R</sub> , pulsed, T <sub>A</sub> = 100°C)	I <sub>R1</sub>	1	mA
<b>Breakdown Voltage</b> (I <sub>R</sub> = 100 μA)	BVR	200	V (min)
<b>Junction Capacitance</b> (V <sub>R</sub> = 10 V <sub>DC</sub> , f = 1MHz, T <sub>A</sub> = 25°C)	C <sub>J</sub>	150	pF
<b>Reverse Recovery Time</b> (I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0 A, I <sub>RR</sub> = 0.25A, T <sub>A</sub> = 25°C)	t <sub>rr</sub>	35	nsec

## CASE OUTLINES: Axial Leaded (□)



Dim	Min	Max
A	0.115"	0.135"
ØB	0.150"	0.190"
C	0.500"	—
ØD	0.038"	0.042"
ØP1	0.145"	0.155"
P2	0.125" REF	

## CASE OUTLINES: Button (BT)



Dim	Min	Max
A	0.125"	0.150"
A1	—	0.020"
ØB	—	0.190"
C	0.190"	0.210"
C1	0.280" REF	
P1	0.145"	0.155"
P2	0.055"	0.075"
P3	0.090"	0.110"
P4	0.060" REF	
T	0.008"	0.012"
R	0.015" REF	

Notes:

\* Diode body profile may differ from the one shown for illustration

\*\*Dimensions prior to solder dipping

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