



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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## SDR2060UFBT

**20 AMP**  
**Ultra Fast Rectifier**  
**600 Volt**  
**60 nsec**

### Designer's Data Sheet

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

**SDR20**

- Screening <sup>2/</sup>
  - = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- Package Type
  - BT = Button
- Reverse Recovery
  - UF = Ultra Fast
- Voltage
  - 60 = 600 V

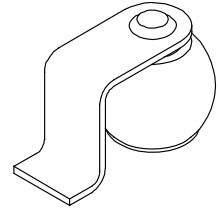
- Features:**
- Replaces DO-4 and DO-5
  - Ultra Fast Recovery
  - Low Reverse Leakage Current
  - Hermetically Sealed Void-Free Construction <sup>3/</sup>
  - Monolithic Single Chip Construction
  - High Surge Rating
  - Low Thermal Resistance
  - Higher Voltages Available - Contact Factory
  - Replacement for MSARS20E060G
  - TX, TXV, and Space Level Screening Available

MAXIMUM RATINGS	Symbol	Value	Units
Peak Repetitive Reverse Voltage and DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	600	Volts
Average Rectified Forward Current (Resistive Load, 60Hz Sine Wave, BT $T_c \leq 100^\circ\text{C}$ )	$I_o$	20	Amps
Peak Surge Current (8.3 ms Pulse, Half sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$ )	$I_{FSM}$	100	Amps
Operating and Storage Temperature	$T_{op}$ & $T_{stg}$	-65 to +175	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$

**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> PIND testing not required on void free devices per MIL-PRF-19500.

**Button (BT)**





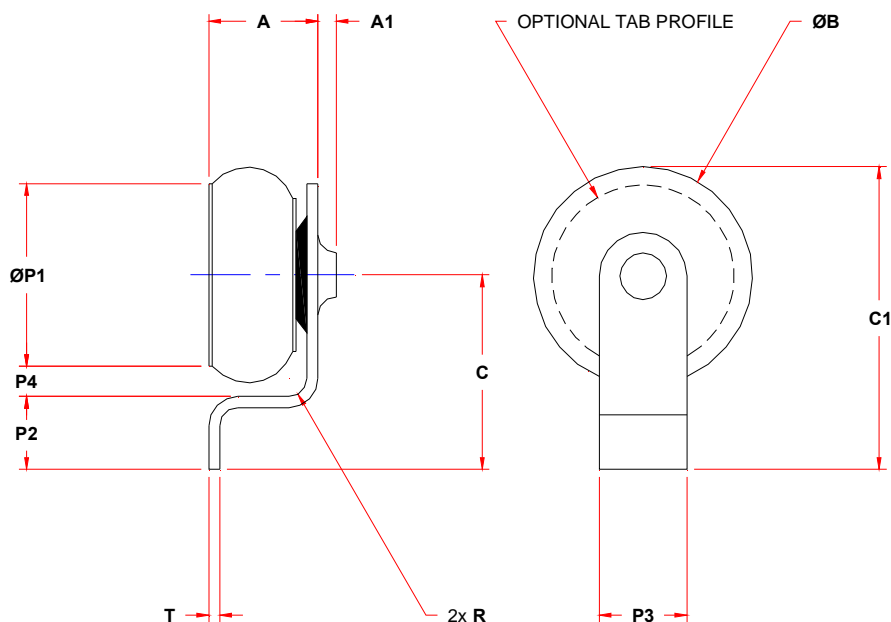
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ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless specified)	Symbol	Max	Unit
<b>Instantaneous Forward Voltage Drop</b> If = 5A pulsed	V <sub>F1</sub>	1.25	V
<b>Instantaneous Forward Voltage Drop</b> If = 10A pulsed	V <sub>F2</sub>	1.40	V
<b>Instantaneous Forward Voltage Drop</b> If = 20A pulsed	V <sub>F3</sub>	1.65	V
<b>Instantaneous Forward Voltage Drop</b> If = 20A pulsed TA = -55°C	V <sub>F4</sub>	2.05	V
<b>Instantaneous Forward Voltage Drop</b> If = 20A pulsed TA = 125°C	V <sub>F5</sub>	1.70	V
<b>Instantaneous Forward Voltage Drop</b> If = 10A pulsed TA = -55°C	V <sub>F4</sub>	1.45	V
<b>Reverse Leakage Current</b> Rated V <sub>R</sub> , pulsed	I <sub>R1</sub>	5	μA
<b>Reverse Leakage Current</b> Rated V <sub>R</sub> , pulsed, TA = 125°C)	I <sub>R2</sub>	200	μA
<b>Breakdown Volatge</b> I <sub>R</sub> = 100 μA	BVR	600	V (min)
<b>Junction Capacitance</b> (V <sub>R</sub> = 10 V <sub>DC</sub> , f = 1MHz, TA = 25°C)	C <sub>J</sub>	80	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, TA = 25°C)	t <sub>rr</sub>	55	nsec

## 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
P4	0.060 REF	
T	0.008	0.012
R	0.015 REF	

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

**DATA SHEET #: RC0146A**

**DOC**