Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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SDR2030UF thru SDR2060UF Series

Designer's Data Sheet

Part Number / Ordering Information [1/]

SDR20 __ __ __ __

- **Screening**[2/]
  - __ = Not Screened
  - TX = TX Level
  - TXV = TXV
  - S = S Level
- **Package Type**
  - = Axial
  - BT = Cathode Button
  - BTR = Anode Button
- **Reverse Recovery**
  - UF = Ultra Fast
- **Voltage**
  - 30 = 300 V
  - 40 = 400 V
  - 50 = 500 V
  - 60 = 600 V

20 AMP
Ultra Fast Rectifier
300 - 600 Volts
45 nsec

Features:

- Replaces DO-4, DO-5, and TO-25X type devices
- Ultra Fast Recovery
- Low Reverse Leakage Current
- Hermetically Sealed Void-Free Construction[3/]
- 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	SDR2030UFBT SDR2040UFBT SDR2050UFBT SDR2060UFBT	V_{RRM} V_{RWM} V_R	300 400 500 600	**Volts**
Average Rectified Forward Current (Resistive Load, 60Hz Sine Wave)	Button @Tc ≤ 100°C Axial @T_L ≤ 55°C	I_O	20 10	**Amps**
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}	300	**Amps**
Operating and Storage Temperature		T_{op} & T_{stg}	-65 to +175	**°C**
Maximum Thermal Resistance	BT Button BTR Button Axial @ 0.25"	$R_{\theta JC}$ $R_{\theta JC}$ $R_{\theta JL}$	2.0 2.2 6.0	**°C/W**

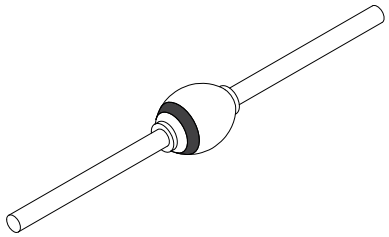
Notes:

1/ For ordering information, price, operating curves, and availability, contact factory.

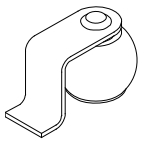
2/ Screening based on MIL-PRF-19500. Screening flows available on request.

3/ PIND testing not required on void free devices per MIL-PRF-19500.

Axial



Button



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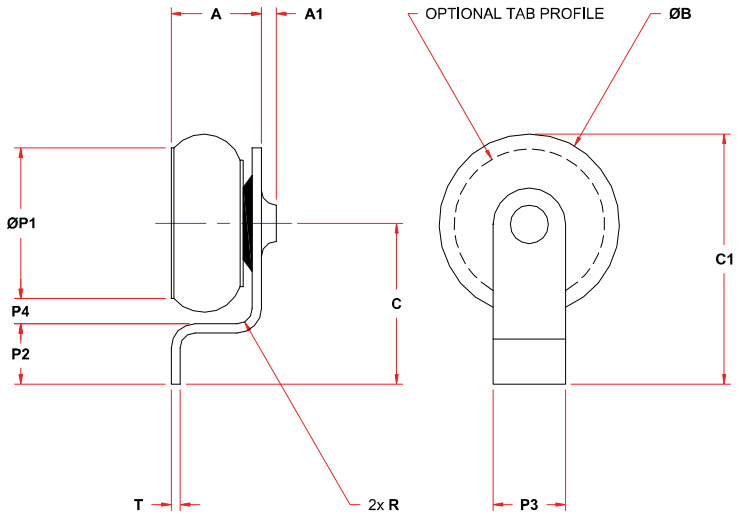
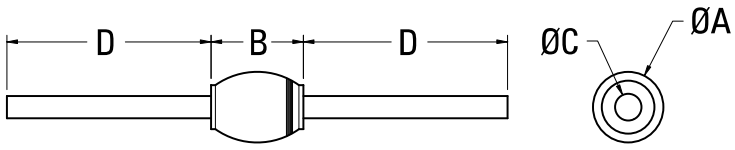
SDR2030UF thru SDR2060UF Series

ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless specified)	Symbol	Max	Unit
Instantaneous Forward Voltage Drop I_F = 5A pulsed	V_{F1}	1.25	V
Instantaneous Forward Voltage Drop I_F = 10A pulsed	V_{F2}	1.40	V
Instantaneous Forward Voltage Drop I_F = 20A pulsed	V_{F3}	1.65	V
Instantaneous Forward Voltage Drop I_F = 20A pulsed T_A = -55°C	V_{F4}	2.05	V
Instantaneous Forward Voltage Drop I_F = 20A pulsed T_A = 125°C	V_{F5}	1.70	V
Instantaneous Forward Voltage Drop I_F = 10A pulsed T_A = -55°C	V_{F4}	1.45	V
Reverse Leakage Current Rated V_R, pulsed	I_{R1}	5	µA
Reverse Leakage Current V_R = 600 V V_{DC}, pulsed, T_A = 125°C)	I_{R2}	100	µA
Minimum Breakdown Voltage I_R, = 100 µA	BVR	Rated	V (min)
Junction Capacitance (V_R =10 V_{DC}, f = 1MHz, T_A = 25°C)	C_J	80	pF
Reverse Recovery Time (I_F = 0.5A, I_R = 1.0 A, I_{RR} = 0.25A, T_A = 25°C)	t_{rr}	45	nsec

CASE OUTLINES: Button



Dim	Min	Max
A	0.150”	0.165”
A1	—	0.020”
ØB	0.135”	0.165”
C	0.190”	0.210”
C1	0.280” REF	
P1	0.110”	0.130”
P2	0.055”	0.075”
P3	0.100”	0.120”
P4	0.065”	—
T	0.008”	0.015”
R	0.015” REF	



DIM	MIN	MAX
A	0.135”	0.165”
B	0.150”	0.180”
C	0.057”	0.062”
D	.500”	—