



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

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

50 = 500 V

40 = 400 V

60 = 600 V

SDR2030UF thru SDR2060UF Series

20 AMP
Ultra Fast Rectifier
300 - 600 Volts
45 nsec

Features:

- Replaces DO-4 and DO-5
- Ultra Fast Recovery
- Low Reverse Leakage Current
- Hermetically Sealed Void-Free Construction ^{3/}
- 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	SDR2030UFBT	V_{RRM}	300	Volts
	SDR2040UFBT	V_{RWM}	400	
	SDR2050UFBT	V_R	500	
	SDR2060UFBT		600	
Average Rectified Forward Current (Resistive Load, 60Hz Sine Wave)	Button @T _c ≤ 100°C	I_o	20	Amps
	Axial @T _L ≤ 55°C		10	
Peak Surge Current (8.3 ms Pulse, Half sine Wave Superimposed on I _o , 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	$R_{\theta JC}$	2.0	°C/W
	BTR Button	$R_{\theta JC}$	2.2	
	Axial @ 0.25"	$R_{\theta JL}$	6.0	

Notes:

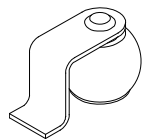
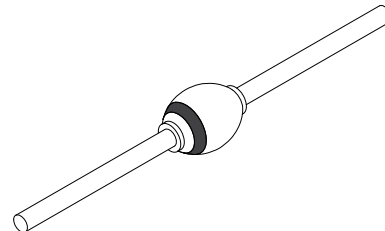
1/ For ordering information, price, operating curves, and availability, contact factory.

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



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

DATA SHEET #: RC0146C

DOC



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638

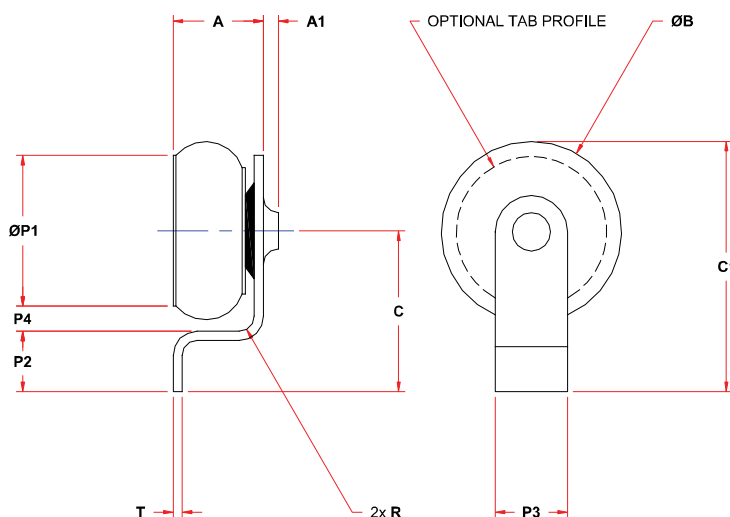
Phone: (562) 404-4474 * Fax: (562) 404-1773

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

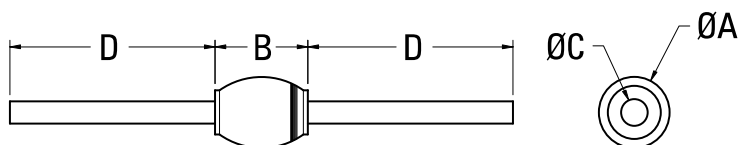
SDR2030UF thru SDR2060UF Series

ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless specified)	Symbol	Max	Unit
Instantaneous Forward Voltage Drop If = 5A pulsed	V _{F1}	1.25	V
Instantaneous Forward Voltage Drop If = 10A pulsed	V _{F2}	1.40	V
Instantaneous Forward Voltage Drop If = 20A pulsed	V _{F3}	1.65	V
Instantaneous Forward Voltage Drop If = 20A pulsed TA = -55°C	V _{F4}	2.05	V
Instantaneous Forward Voltage Drop If = 20A pulsed TA = 125°C	V _{F5}	1.70	V
Instantaneous Forward Voltage Drop If = 10A pulsed TA = -55°C	V _{F4}	1.45	V
Reverse Leakage Current Rated VR, pulsed	I _{R1}	5	μA
Reverse Leakage Current Rated VR, pulsed, TA = 125°C)	I _{R2}	500	μA
Minimum Breakdown Voltage IR, = 100 μA	BVR	Rated	V (min)
Junction Capacitance (VR = 10 VDC, f = 1MHz, TA = 25°C)	C _J	80	pF
Reverse Recovery Time (If = 0.5A, IR = 1.0 A, IRR = 0.25A, TA = 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	0.090"	0.110"
P4	0.065"	—
T	0.008"	0.012"
R	0.015" REF	



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

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

DATA SHEET #: RC0146C

DOC