



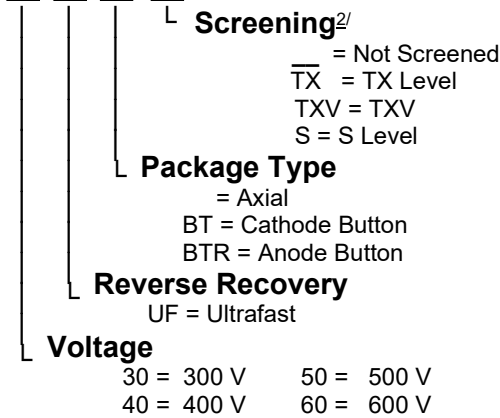
Solid State Devices, Inc.

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



SDR2030UF thru SDR2060UF Series

20 AMP
ULTRAFAST RECTIFIER
300 - 600 Volts
50 nsec

Features:

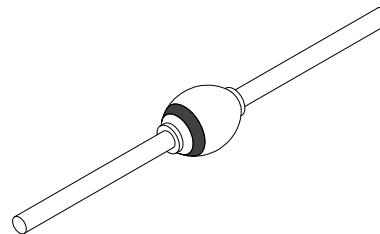
- Replaces DO-4, DO-5, and TO-25X type devices
- Ultrafast Recovery with low high temperature trr
- Low Reverse Leakage Current
- Hermetically Sealed Void-Free Construction^{3/}
- High Surge Rating
- Low Thermal Resistance
- Higher Voltages Available - Contact Factory
- Replacement for MSARS20E060G
- TX, TXV, and Space Level Screening Available

MAXIMUM RATINGS		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	SDR2030UF	V_{RRM}	300	V
	SDR2040UF	V_{RWM}	400	
	SDR2050UF	V_R	500	
	SDR2060UF		600	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave)	Button @T _c ≤ 100°C	I_o	20	A
	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}	240	A
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	

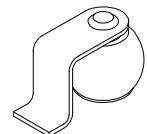
Notes:

- ^{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.

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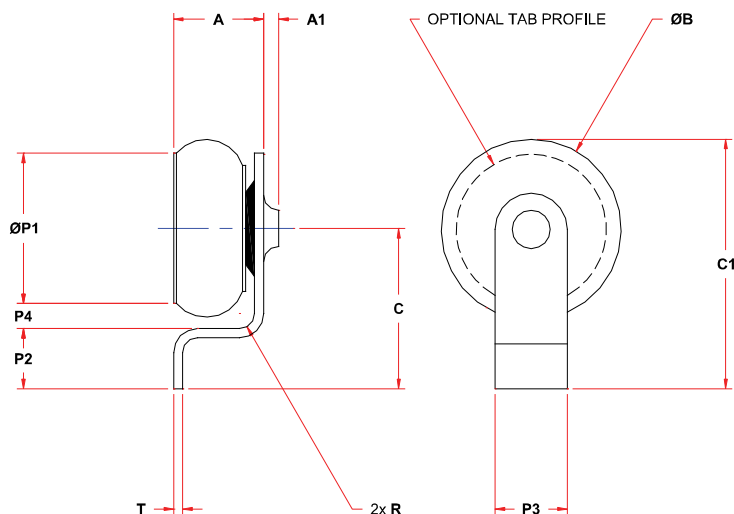
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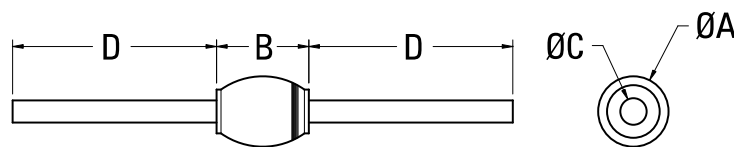
SDR2030UF thru SDR2060UF Series

ELECTRICAL CHARACTERISTICS (T _A = 25°C unless specified)	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage Drop I _F = 5 A pulsed	V _{F1}	1.05	1.25	V
Instantaneous Forward Voltage Drop I _F = 10 A pulsed	V _{F2}	1.20	1.40	V
Instantaneous Forward Voltage Drop I _F = 20 A pulsed	V _{F3}	1.30	1.65	V
Instantaneous Forward Voltage Drop I _F = 20 A pulsed, T _A = -55°C	V _{F4}	1.40	2.05	V
Instantaneous Forward Voltage Drop I _F = 20 A pulsed, T _A = 125°C	V _{F5}	1.15	1.70	V
Instantaneous Forward Voltage Drop I _F = 10 A pulsed, T _A = -55°C	V _{F6}	1.30	1.45	V
Reverse Leakage Current Rated V _R , pulsed	I _{R1}	0.50	5	μA
Reverse Leakage Current V _R = Rated V _{DC} , pulsed, T _A = 125°C	I _{R2}	50	100	μA
Minimum Breakdown Voltage I _R = 100 μA	BVR	110% Rated	100% Rated	V (min)
Junction Capacitance V _R = 10 V _{DC} , f = 1 MHz, T _A = 25°C	C _J	45	80	pF
Reverse Recovery Time I _F = 0.5 A, I _R = 1.0 A, I _{RR} = 0.25 A, T _A = 25°C	t _{rr}	40 140 @ 125°C	50	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	—	0.180"
C	0.057"	0.062"
D	.500"	—

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