



Solid State Devices, Inc.

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**SDR1304 thru SDR1308
 SDR1304SMS thru SDR1308SMS**

**3 AMP, 400 – 800 Volts
 70 nsec, Ultra Fast Rectifier**

DESIGNER'S DATA SHEET

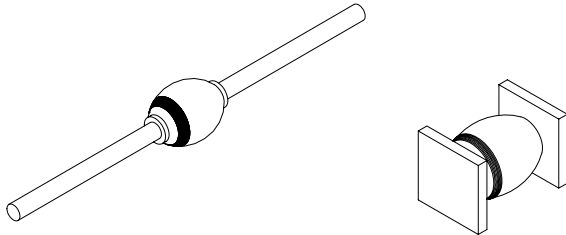
Part Number / Ordering Information ^{1/}

SDR130 6 - - - -

L Processing = None
 or TX, TXV, S
L Package = Axial
 SMS = Surface Mount
L Lead Dia = .050" standard
 A = .040" special order
L Voltage 4 = 400 V
 6 = 600 V
 8 = 800 V

Axial Leaded

Surface Mount (SMS)



Features:

- Ultra Fast Recovery: 70 nsec @ 25°C,
- PIV to 700 Volts
- Hermetically Sealed
- Void Free Construction
- For High Efficiency Applications
- Low Forward Voltage Drop
- Single Chip Construction
- Replaces UES 1304 Types

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR1304	V_{RRM}	400	Volts
	SDR1306		600	
	SDR1308	V_R	800	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$)		I_o	3.0	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}	75	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +175	°C
Maximum Thermal Resistance	Junction to Lead, L = 3/8 "	$R_{\theta JL}$	20	°C/W
	Junction to End Tab	$R_{\theta JE}$	14	

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

DATA SHEET #: RU0095C

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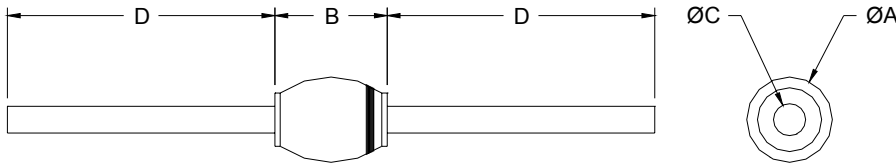
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**SDR1304 thru SDR1308
 SDR1304SMS thru SDR1308SMS**

Electrical Characteristics	Part Type	Symbol	Min	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, pulsed) $I_F = 3\text{A}$	SDR1304 - 1306 SDR1308	V_{F1}	—	1.25 1.35	Volts
Instantaneous Forward Voltage Drop ($T_A = -55^\circ\text{C}$, pulsed) $I_F = 3\text{A}$	SDR1304 - 1306 SDR1308	V_{F2}	—	1.40 1.50	Volts
Reverse Leakage Current (Rated V_R , $T_A = 25^\circ\text{C}$, pulsed)	All	I_{R1}	—	10	μA
Reverse Leakage Current (Rated V_R , pulsed)	SDR1304 - 1306 @ 125°C SDR1308 @ 100°C	I_{R2}	—	150 150	μA
Junction Capacitance ($V_R = 10\text{Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$)	All	C_J	—	50	pF
Reverse Recovery Time ($I_F = 500\text{mA}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$)	All	t_{rr}	—	70	nsec

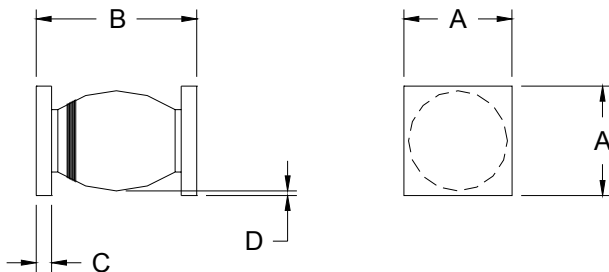
Case Outline: (Axial)



DIMENSIONS SDR1304 & SDR1306		
DIM	MIN	MAX
A	0.140"	0.170"
B	—	0.200"
C	0.047"	0.053"
D	1.00"	—

DIMENSIONS SDR1308		
DIM	MIN	MAX
A	0.140"	0.170"
B	—	0.215"
C	0.045"	0.053"
D	1.00"	—

Case Outline: Surface Mount (SMS)



DIMENSIONS SDR1304 & SDR1306		
DIM	MIN	MAX
A	0.172"	0.180"
B	0.200"	0.250"
C	0.020"	0.035"
D	0.002"	—

DIMENSIONS SDR1308		
DIM	MIN	MAX
A	0.172"	0.180"
B	0.200"	0.265"
C	0.020"	0.035"
D	0.002"	—

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