



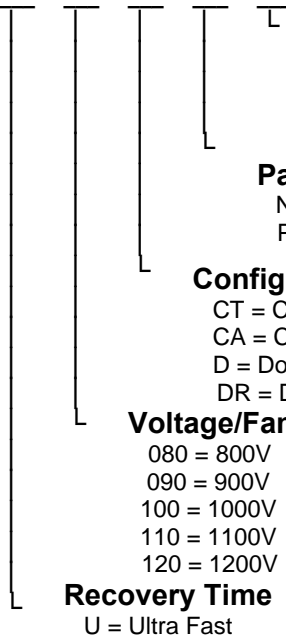
# Solid State Devices, Inc.

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 <sup>1/</sup>

SDR60



### Screening <sup>2/</sup>

- = Not Screened
- TX = TX Level
- TXV = TXV Level
- S = S Level

### Package Type

- N = TO-258
- P = TO-259

### Configuration

- CT = Common Cathode
- CA = Common Anode
- D = Doubler
- DR = Doubler Reverse

### Voltage/Family

- 080 = 800V
- 090 = 900V
- 100 = 1000V
- 110 = 1100V
- 120 = 1200V

### Recovery Time

- U = Ultra Fast

**SDR60U080CT  
 thru  
 SDR60U120CT  
 Series**

**60 AMP  
 ULTRA FAST LOW VF  
 CENTERTAP RECTIFIER  
 800 -1200 Volts  
 55 nsec**

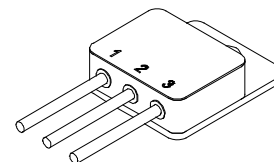
### Features:

- Ultra Fast Recovery: 40 nsec typical
- High Surge Rating
- Low Reverse Leakage Current
- Low Forward Voltage Drop
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach available
- Ultrasonic Aluminum Wire Bonds
- Ceramic Seals for improved hermeticity available
- Available in Centertap and Doubler versions
- TX, TXV, Space Level Screening Available Consult Factory.

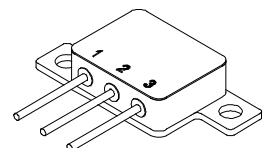
Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	SDR60U080	$V_{RRM}$	800	Volts
	SDR60U090		900	
	SDR60U100	$V_{RWM}$	1000	
	SDR60U110		1100	
	SDR60U120	$V_R$	1200	
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ\text{C}$ ) <sup>3/4/</sup>		$I_o$	60	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on $I_o$ , Allow Junction to Reach Equilibrium Between Pulses, $T_A = 25^\circ\text{C}$ ) <sup>3/</sup>		$I_{FSM}$	400	Amps
Operating & Storage Temperature		Top & Tstg	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case, each individual diode Junction to Case <sup>3/</sup>		$R_{\theta JE}$	1.0	$^\circ\text{C/W}$
			0.75	

<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> Both legs tied together.  
<sup>4/</sup> Package limited.

TO-258 (N)



TO-259 (P)



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

**DATA SHEET #: RC0145B**

**DOC**



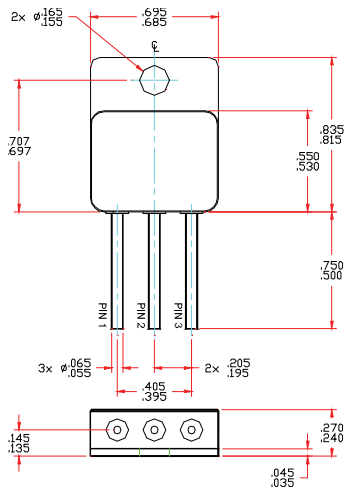
**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-4474 \* Fax: (562) 404-1773  
 ssdi@ssdi-power.com \* www.ssdi-power.com

**SDR60F080CT  
 thru SDR60U120CT Series**

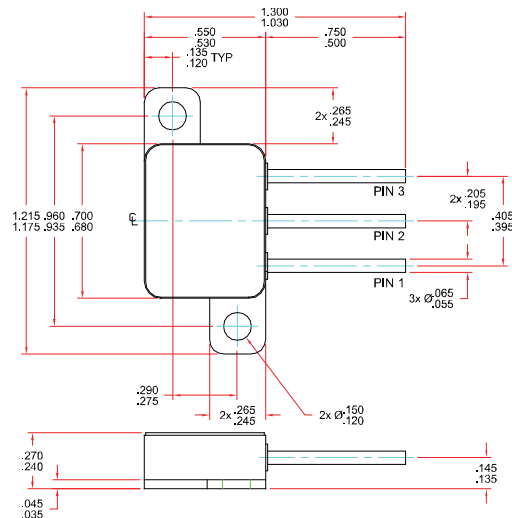
Electrical Characteristics (per leg)		Symbol	Typ	Max	Units
<b>Instantaneous Forward Voltage Drop</b> ( $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 10\text{A dc}$	$V_{F1}$	1.65	1.80	<b>Volts</b>
	$I_F = 20\text{A dc}$		1.75	1.90	
	$I_F = 50\text{A dc}$		1.90	2.15	
	$I_F = 100\text{A dc}$		2.10	2.50	
<b>Instantaneous Forward Voltage Drop</b> ( $T_A = -55^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 10\text{A dc}$	$V_{F2}$	1.75	—	<b>Volts</b>
	$I_F = 20\text{A dc}$		1.80	1.95	
	$I_F = 50\text{A dc}$		1.95	2.25	
	$I_F = 100\text{A dc}$		2.10	—	
<b>Instantaneous Forward Voltage Drop</b> ( $T_A = 125^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)	$I_F = 10\text{A dc}$	$V_{F3}$	1.75	—	<b>Volts</b>
	$I_F = 20\text{A dc}$		1.30	1.5	
	$I_F = 50\text{A dc}$		1.65	1.95	
	$I_F = 100\text{A dc}$		1.95	—	
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)		$I_{R1}$	50	250	$\mu\text{A}$
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)		$I_{R2}$	3	—	<b>mA</b>
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 125^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)		$I_{R3}$	10	25	<b>mA</b>
<b>Reverse Leakage Current</b> (Rated $V_R$ , $T_A = 150^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)		$I_{R4}$	25	—	<b>mA</b>
<b>Junction Capacitance</b> ( $V_R = 5\text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ ) ( $V_R = 10\text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )		$C_J$	100	—	<b>pF</b>
			85	150	
<b>Reverse Recovery Time</b> ( $I_F = 500\text{ mA}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ )	$T_A = 25^\circ\text{C}$	$t_{rr}$	40	55	<b>nsec</b>
	$T_A = 100^\circ\text{C}$		120	—	

Case Outline: TO-258



Note 1: Pin 2&3 connected together

Case Outline: TO-259



**PIN ASSIGNMENT**

Code	Function	Pin 1	Pin 2	Pin 3
CT	Common Cathode	Anode	Cathode	Anode
CA	Common Anode	Cathode	Anode	Cathode
D	Doubler	Cathode	Anode / Cathode	Anode
DR	Doubler Reverse	Anode	Cathode / Anode	Cathode

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

**DATA SHEET #: RC0145B**

**DOC**