



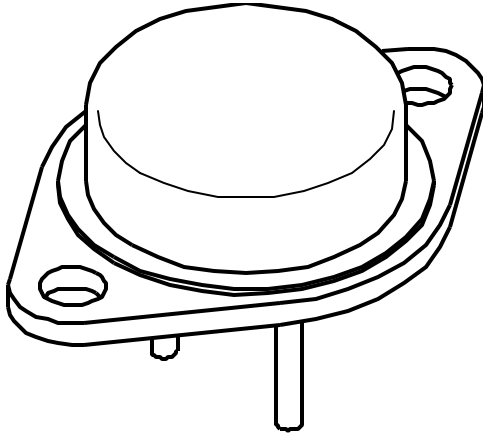
**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, CA 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

**SDR623CT/3  
Thru  
SDR626CT/3**

**DESIGNER'S DATA SHEET <sup>1/</sup>**

TO-3



**40A 35nsec 300-600 V  
Hyper Fast Centertap Rectifier**

**Features:**

- Hyper Fast Recovery: 35nsec Maximum <sup>3/</sup>
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach
- Ultrasonic Aluminum Wire Bonds
- Common Anode and Doubler Versions Available
- Ceramic Seals for Improved Hermeticity Available
- TX, TXV, and S-Level Screening Available <sup>2/</sup>

| Maximum Ratings   |            | Symbol              | Value       | Units        |
|---|------------|---------------------|-------------|--------------|
| Peak Repetitive Reverse Voltage   | SDR623CT/3 | $V_{RRM}$           | 300         | Volts        |
|   | SDR624CT/3 | $V_{RWM}$           | 400         |              |
|   | SDR625CT/3 | $V_R$               | 500         |              |
|   | SDR626CT/3 |                     | 600         |              |
| Average Rectified Forward Current <sup>4/</sup><br>(Resistive Load, 60 Hz Sine Wave, $T_A = 25^\circ C$ ) |            | $I_o$               | 40          | Amps         |
| Peak Surge Current <sup>5/</sup><br>(8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$ )                   |            | $I_{FSM}$           | 200         | Amps         |
| Operating & Storage Temperature   |            | $T_{OP} \& T_{STG}$ | -65 to +200 | $^\circ C$   |
| Maximum Total Thermal Resistance  |            | $R_{qJC}$           | 1.45        | $^\circ C/W$ |
| Junction to Case <sup>4/</sup>  |            |                     | 2.3         |              |
| Junction to Case <sup>5/</sup>  |            |                     |             |              |

**Notes:**

- 1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.
- 2/ Screened to MIL-PRF-19500.
- 3/ Recovery Conditions:  $I_F = 0.5$  Amp,  $I_R = 1.0$  Amp, rec. to .25 Amp.
- 4/ Both Legs Tied Together.
- 5/ Each Leg.

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

**DATA SHEET #: RH0123B**

**DOC**

**SDR623CT/3**  
**Thru**  
**SDR626CT/3**

| Electrical Characteristics, per leg  |                           | Symbol   | Max  | Units       |
|--|---------------------------|----------|------|-------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10\text{Adc}$ , Pulse)   | $T_A = 25^\circ\text{C}$  | $V_{F1}$ | 1.30 | $V_{DC}$    |
|  | $T_A = 25^\circ\text{C}$  | $V_{F2}$ | 1.45 |             |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10\text{Adc}$ , Pulse)   | $T_A = 100^\circ\text{C}$ | $V_{F3}$ | 1.2  | $V_{DC}$    |
|  | $T_A = -55^\circ\text{C}$ | $V_{F4}$ | 1.4  |             |
| <b>Reverse Leakage Current</b><br>(100% of rated $V_R$ , Pulse)  | $T_A = 25^\circ\text{C}$  | $I_{R1}$ | 50   | <b>mA</b>   |
|  | $T_A = 100^\circ\text{C}$ | $I_{R2}$ | 5    | <b>mA</b>   |
| <b>Reverse Recovery Time</b><br>( $I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 25^\circ\text{C}$ ) |                           | $t_{rr}$ | 35   | <b>nsec</b> |
| <b>Junction Capacitance</b><br>( $V_R = 10V_{DC}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )                               |                           | $C_J$    | 150  | <b>pF</b>   |

| PIN ASSIGNMENT  |         |         |         |
|-----------------|---------|---------|---------|
| Configuration   | Pin 1   | Pin 2   | Case    |
| Common Cathode  | Anode   | Anode   | Cathode |
| Common Anode    | Cathode | Cathode | Anode   |
| Doubler         | Anode   | Cathode | Common  |
| Doubler Reverse | Cathode | Anode   | Common  |

