

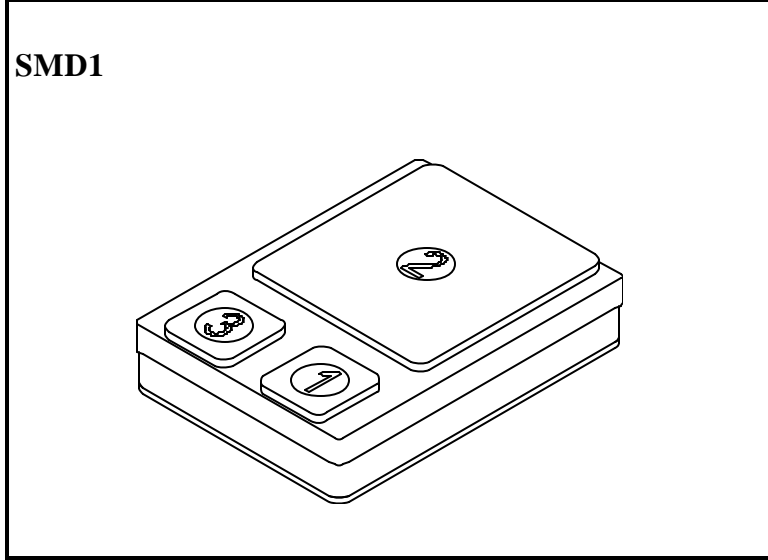


**Solid State Devices, Inc.**

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

**SDR623CTS1  
 Thru  
 SDR626CTS1**

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



**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 Surface Mount Package
  - Gold Eutectic Die Attach
  - Ultrasonic Aluminum Wire Bonds
  - TX, TXV, and S-Level Screening Available <sup>2/</sup>

| Maximum Ratings   | Symbol                          | Value                    | Units        |
|---|---------------------------------|--------------------------|--------------|
| Peak Repetitive Reverse Voltage   | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 300<br>400<br>500<br>600 | Volts        |
| 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<br>Junction to Case <sup>4/</sup><br>Junction to Case <sup>5/</sup>      | $R_{qJC}$                       | 1.3<br>2.3               | $^\circ C/W$ |

**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.



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| Electrical Characteristics, per leg  | Symbol                            | Max      | Units |               |
|--|-----------------------------------|----------|-------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10\text{Adc}$ , Pulse)   | $T_A = 25\text{ }^\circ\text{C}$  | $V_{F1}$ | 1.35  | $V_{DC}$      |
|  | $T_A = 25\text{ }^\circ\text{C}$  | $V_{F2}$ | 1.50  |               |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10\text{Adc}$ , Pulse)   | $T_A = 100\text{ }^\circ\text{C}$ | $V_{F3}$ | 1.25  | $V_{DC}$      |
|  | $T_A = -55\text{ }^\circ\text{C}$ | $V_{F4}$ | 1.45  |               |
| <b>Reverse Leakage Current</b><br>(100% of rated $V_R$ , Pulse)  | $T_A = 25\text{ }^\circ\text{C}$  | $I_{R1}$ | 50    | $\text{mA}$   |
|  | $T_A = 100\text{ }^\circ\text{C}$ | $I_{R2}$ | 5     | $\text{mA}$   |
| <b>Reverse Recovery Time</b><br>( $I_F = 0.5\text{A}$ , $I_R = 1\text{A}$ , $I_{RR} = 0.25\text{A}$ , $T_A = 25\text{ }^\circ\text{C}$ ) |                                   | $t_{RR}$ | 35    | $\text{nsec}$ |
| <b>Junction Capacitance</b><br>( $V_R = 10V_{DC}$ , $T_A = 25\text{ }^\circ\text{C}$ , $f = 1\text{MHz}$ )                               |                                   | $C_J$    | 150   | $\text{pF}$   |

| PIN ASSIGNMENT |       |         |       |
|----------------|-------|---------|-------|
| PACKAGE        | Pin 1 | Pin 2   | Pin 3 |
| SMD1           | Anode | Cathode | Anode |

