



**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

**SDR620CTJ  
thru  
SDR622CTJ**

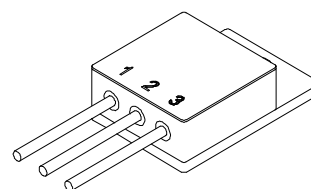
**40 AMPS  
100 - 200 VOLTS  
35 nsec  
HYPER FAST  
CENTERTAP RECTIFIER**

**Designer's Data Sheet**

**FEATURES:**

- Replaces Two 1N5816 Devices
- Hyper Fast Recovery: 35 nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach Available
- TX, TXV, and Space Level Screening Available. Consult Factory.

TO-257



**Available in Following Configurations:**

Common Cathode Centertap: **SDR620CTJ, SDR620CTJUB, SDR620CTJDB; SDR621CTJ, SDR621CTJUB, SDR621CTJDB; SDR622CTJ, SDR622CTJUB, SDR622CTJDB**

Common Anode Centertap: **SDR620CAJ, SDR620CAJUB, SDR620CAJDB; SDR621CAJ, SDR621CAJUB, SDR621CAJDB; SDR622CAJ, SDR622CAJUB, SDR622CAJDB**

Doubler: **SDR620DJ, SDR620DJUB, SDR620DJDB; SDR621DJ, SDR621DJUB, SDR621DJDB; SDR622DJ, SDR622DJUB, SDR622DJDB; SDR620DRJ, SDR620DRJUB, SDR620DRJDB; SDR621DRJ, SDR621DRJUB, SDR621DRJDB; SDR622DRJ, SDR622DRJUB, SDR622DRJDB**

| MAXIMUM RATINGS   |           | Symbol                             | Value       | Units |
|---|-----------|------------------------------------|-------------|-------|
| Peak Repetitive Reverse Voltage and DC Blocking Voltage <sup>1/</sup>                                       | SDR620CTJ | V <sub>RRM</sub>                   | 100         | Volts |
|   | SDR621CTJ | V <sub>RWM</sub>                   | 150         |       |
|   | SDR622CTJ | V <sub>R</sub>                     | 200         |       |
| Average Rectified Forward Current<br>(Resistive Load, 60 Hz, Sine Wave, T <sub>A</sub> =25°C) <sup>2/</sup> |           | I <sub>O</sub>                     | 40          | Amps  |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> =25°C) <sup>2/</sup>                    |           | I <sub>FSM</sub>                   | 300         | Amps  |
| Operating and Storage Temperature   |           | T <sub>OP</sub> & T <sub>stg</sub> | -65 to +200 | °C    |
| Maximum Thermal Resistance<br>Junction to Case (Each Individual Diode)<br>Junction to Case <sup>2/</sup>    |           | R <sub>qJC</sub>                   | 1.2<br>0.8  | °C/W  |

**NOTES:**

1/ Higher voltage class available

2/ Both legs tied together

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

**DATA SHEET #: RH0071F**

**DOC**

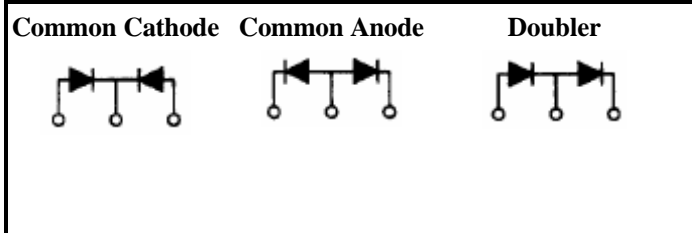
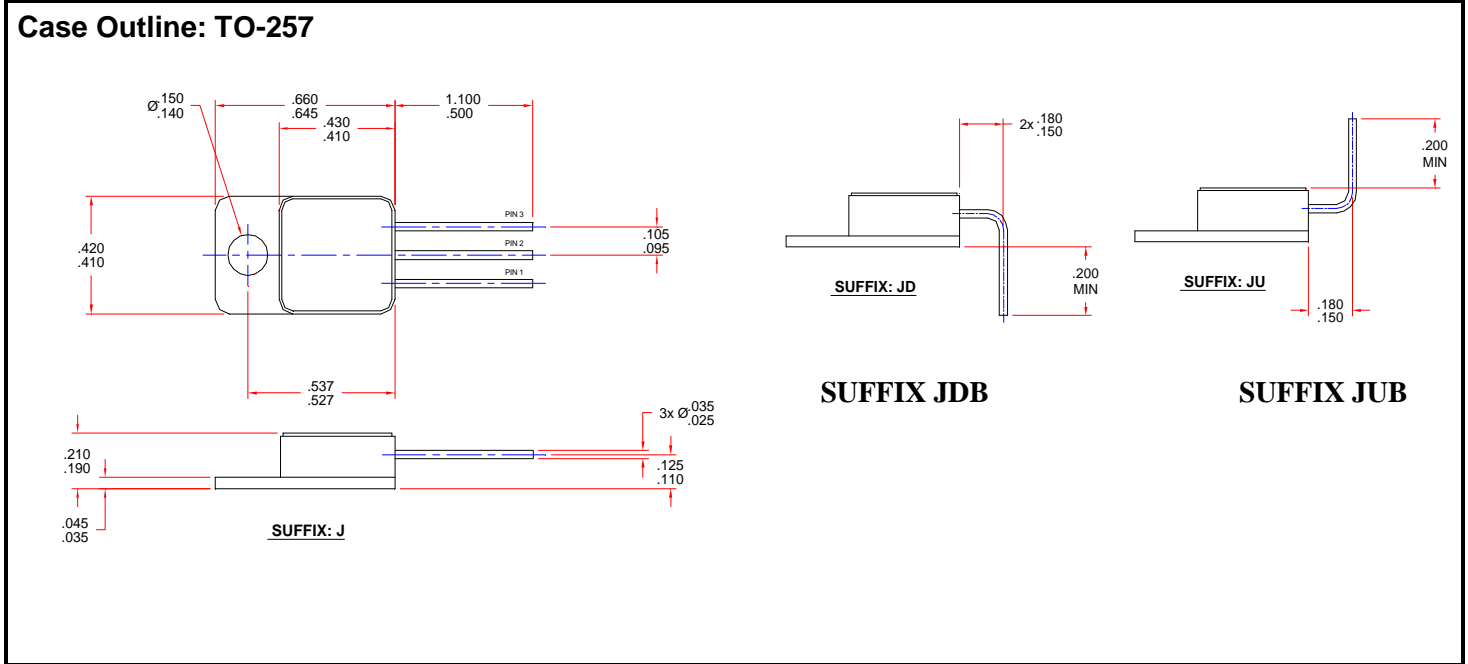


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**SDR620CTJ  
 thru  
 SDR622CTJ**

| ELECTRICAL CHARACTERISTICS (Per Leg)  | Symbol               | Min | Max          | Unit         |
|---|----------------------|-----|--------------|--------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10$ Amps, $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse)<br>( $I_F = 20$ Amps, $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse)   | $V_{F1}$<br>$V_{F2}$ | —   | 1.05<br>1.25 | <b>Volts</b> |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10$ Amps, $T_A = 100^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse)<br>( $I_F = 10$ Amps, $T_A = -55^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse) | $V_{F3}$<br>$V_{F4}$ | —   | 0.95<br>1.20 | <b>Volts</b> |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)  | $I_{R1}$             | —   | 10           | <b>mA</b>    |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)   | $I_{R2}$             | —   | 1            | <b>mA</b>    |
| <b>Junction Capacitance</b><br>( $V_R = 10$ V <sub>DC</sub> , $T_A = 25^\circ\text{C}$ , $f = 1$ MHz)   | $C_J$                | —   | 225          | <b>pF</b>    |
| <b>Reverse Recovery Time</b><br>( $I_F = 0.5$ A, $I_R = 1$ A, $I_{RR} = 0.25$ A, $T_A = 25^\circ\text{C}$ )   | $t_{rr}$             | —   | 35           | <b>ns</b>    |



| PIN ASSIGNMENT |                 |           |                  |           |
|----------------|-----------------|-----------|------------------|-----------|
| CODE           | FUNCTION        | PIN 1     | PIN 2            | PIN 3     |
| CT             | Common Anode    | Anode 1   | Cathode          | Anode 2   |
| CA             | Common Anode    | Cathode 1 | Anode            | Cathode 2 |
| D              | Doubler         | Anode 1   | Cathode1/Anode 2 | Cathode 2 |
| DR             | Doubler Reverse | Cathode 1 | Cathode2/Anode 1 | Anode 2   |