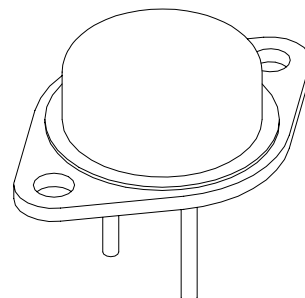




PRELIMINARY

**SOLID STATE DEVICES, INC.**14005 Stage Road \* Santa Fe Springs, Ca 90670  
Phone: (562) 404-4474 \* Fax: (562) 404-1773**Designer's Data Sheet****FEATURES:**

- **Hyper Fast Recovery: 35 nsec Maximum**
- **High Surge Rating**
- **Low Reverse Leakage Current**
- **Low Junction Capacitance**
- **Hermetically Sealed Package**
- **Gold Eutectic Die Attach Available**
- **Ultrasonic Aluminum Wire Bonds**
  
- **TX and TXV Level Screening Available**

**SDR953/3  
thru  
SDR955/3****50 AMPS  
300 - 500 VOLTS  
35 nsec  
HYPER FAST RECTIFIER****TO-3**

| Maximum Ratings                                                                                            |                 | SYMBOL                                                | VALUE       | UNITS                                  |
|------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------|-------------|----------------------------------------|
| <b>Peak Repetitive Reverse and<br/>DC Blocking Voltage</b>                                                 | <b>SDR953/3</b> | <b><math>V_{RRM}</math></b>                           | 300         | <b>Volts</b>                           |
|                                                                                                            | <b>SDR954/3</b> | <b><math>V_{RWM}</math></b>                           | 400         |                                        |
|                                                                                                            | <b>SDR955/3</b> | <b><math>V_R</math></b>                               | 500         |                                        |
| <b>Average Rectified Forward Current</b><br>(Resistive load, 60Hz, Sine Wave, $T_A = 25^{\circ}\text{C}$ ) |                 | <b><math>I_o</math></b>                               | 50          | <b>Amps</b>                            |
| <b>Peak Surge Current</b><br>(8.3 ms Pulse, Half Sine Wave, $T_A = 25^{\circ}\text{C}$ )                   |                 | <b><math>I_{FSM}</math></b>                           | 800         | <b>Amps</b>                            |
| <b>Operating and Storage Temperature</b>                                                                   |                 | <b><math>T_{OP}</math> &amp; <math>T_{stg}</math></b> | -65 TO +200 | <b><math>^{\circ}\text{C}</math></b>   |
| <b>Maximum Thermal Resistance</b><br>Junction to Case                                                      |                 | <b><math>R_{\theta JC}</math></b>                     | 1.0         | <b><math>^{\circ}\text{C/W}</math></b> |

**NOTE:** All specifications are subject to change without notification.  
SCD's for these devices should be reviewed by SSDI prior to release.**DATA SHEET # : RH0135B**

# SDR953/3 thru SDR955/3

PRELIMINARY



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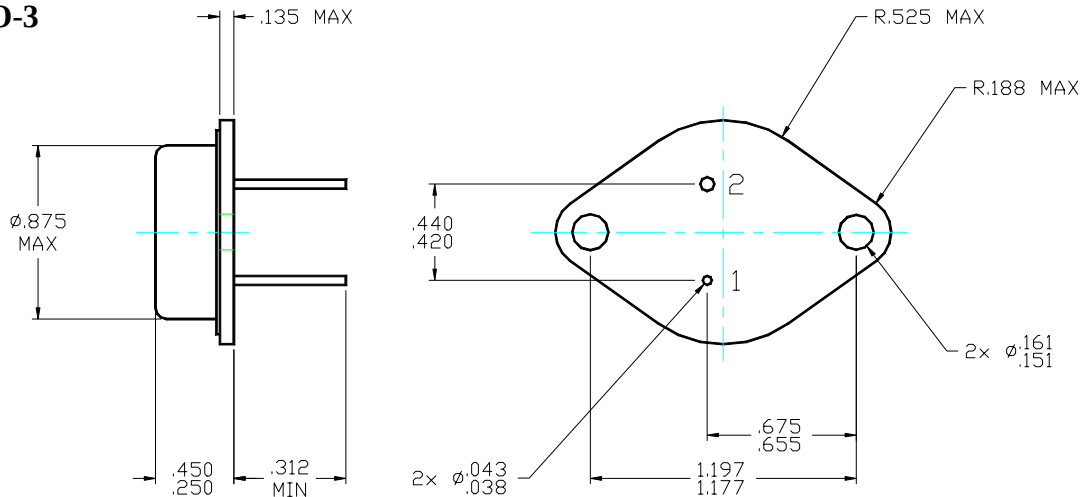
| Electrical Characteristics                                                                                                          |                           | SYMBOL   | MIN | MAX  | UNITS         |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------|-----|------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse)                                | $I_F = 25\text{A}$        | $V_{F1}$ | -   | 1.20 | Vdc           |
|                                                                                                                                     | $I_F = 50\text{A}$        | $V_{F2}$ | -   | 1.45 | Vdc           |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 25\text{A}$ , 300 $\mu\text{sec}$ Pulse)                                      | $T_A = 100^\circ\text{C}$ | $V_{F3}$ | -   | 1.10 | Vdc           |
|                                                                                                                                     | $T_A = -55^\circ\text{C}$ | $V_{F4}$ | -   | 1.30 | Vdc           |
| <b>Reverse Leakage Current</b><br>( $V_R = 80\%$ Rated, 300 $\mu\text{s}$ pulse minimum )                                           | $T_A = 25^\circ\text{C}$  | $I_{R1}$ | -   | 100  | $\mu\text{A}$ |
|                                                                                                                                     | $T_A = 100^\circ\text{C}$ | $I_{R2}$ | -   | 10   | mA            |
| <b>Breakdown Voltage</b><br>( $I_R = 1\text{mA}$ , $T_A = 25^\circ\text{C}$ )                                                       | SDR953/3                  | $B_{VR}$ | 300 | -    | Vdc           |
|                                                                                                                                     | SDR954/3                  |          | 400 | -    |               |
|                                                                                                                                     | SDR955/3                  |          | 500 | -    |               |
| <b>Junction Capacitance</b><br>( $V_R = 10\text{ Vdc}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{MHz}$ )                             |                           | $C_J$    | -   | 250  | pF            |
| <b>Reverse Recovery Time</b><br>( $I_F = 500\text{mA}$ , $I_R = 1.0\text{A}$ , $I_{RR} = 250\text{mA}$ , $T_A = 25^\circ\text{C}$ ) |                           | $t_{RR}$ | -   | 35   | nsec          |

## CASE OUTLINE: TO-3

CASE: CATHODE

PIN 1: ANODE

PIN 2: ANODE



## TYPICAL OPERATING CURVES

$T_A = 25^\circ\text{C}$  Unless otherwise specified

