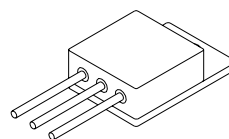
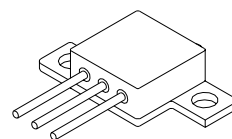




PRELIMINARY

**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: 30nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed Package
- Gold Eutectic Die Attach Available
- Ultrasonic Aluminum Wire Bonds
- Common Anode and Doubler versions available
- TX, TXV and Space Level Screening Available

**SDR656CTM & Z****40AMPS  
600 VOLTS  
30 nsec  
HYPER FAST  
CENTERTAP RECTIFIER****TO-254****TO-254Z**

| Maximum Ratings                                                                                              | SYMBOL                          | VALUE       | UNITS              |
|--------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|--------------------|
| Peak Repetitive Reverse and<br>DC Blocking Voltage<br><b>SDR626CTM &amp; Z</b>                               | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 600         | Volts              |
| Average Rectified Forward Current.<br>(Resistive load, 60Hz, Sine Wave, $T_A = 25^\circ\text{C}$ ) <u>1/</u> | $I_o$                           | 40          | Amps               |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$ ) <u>2/</u>                    | $I_{FSM}$                       | 200         | Amps               |
| Operating and Storage Temperature                                                                            | $T_{OP}$ & $T_{STG}$            | -65 TO +175 | $^\circ\text{C}$   |
| Maximum Thermal Resistance<br>Junction to Case, each individual diode<br>Junction to Case, <u>1/</u>         | $R_{\theta JC}$                 | 2.0<br>1.0  | $^\circ\text{C/W}$ |

1/ Both legs tied together2/ Per 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 #: RC0028A**

# SDR656CTM & Z

PRELIMINARY



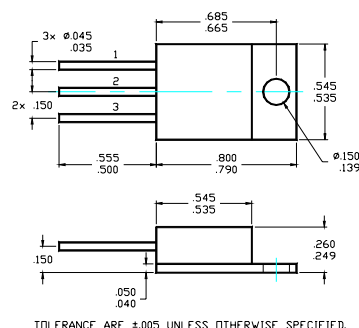
**SOLID STATE DEVICES, INC.**

14005 Stage Road \* Santa Fe Springs, Ca 90670  
Phone: (562) 404-4474 \* Fax: (562) 404-1773

| Electrical Characteristics (per leg)                                                                                                                                | SYMBOL   | VALUE                      | UNITS                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------|----------------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10A$ $T_A = 25^\circ C$ , 300 $\mu$ sec pulse )<br>( $I_F = 20A$ $T_A = 25^\circ C$ , 300 $\mu$ sec pulse )   | $V_F$    | <b>1.35</b><br><b>1.55</b> | $V_{DC}$<br>$V_{DC}$ |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10A$ $T_A = 100^\circ C$ , 300 $\mu$ sec pulse )<br>( $I_F = 10A$ $T_A = -55^\circ C$ , 300 $\mu$ sec pulse ) | $V_F$    | <b>1.25</b><br><b>1.45</b> | $V_{DC}$<br>$V_{DC}$ |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 25^\circ C$ , 300 $\mu$ s pulse minimum )                                                                   | $I_R$    | <b>50</b>                  | $\mu A$              |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 100^\circ C$ , 300 $\mu$ s pulse minimum )                                                                  | $I_R$    | <b>5</b>                   | <b>mA</b>            |
| <b>Junction Capacitance</b><br>( $V_R = 10V_{DC}$ , $T_A = 25^\circ C$ , $f = 1MHz$ )                                                                               | $C_J$    | <b>50</b>                  | <b>pf</b>            |
| <b>Reverse Recovery Time</b><br>( $T_A = 25^\circ C$ , $I_F = 0.5A$ , $I_R = 1.0A$ , $I_{RR} = 0.25A$ )                                                             | $T_{RR}$ | <b>30</b>                  | <b>nsec</b>          |

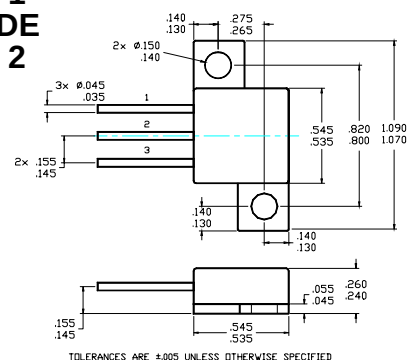
## CASE OUTLINE: TO-254

**PIN 1: ANODE 1**  
**PIN 2: CATHODE**  
**PIN 3: ANODE 2**



## CASE OUTLINE: TO-254Z

**PIN 1: ANODE 1**  
**PIN 2: CATHODE**  
**PIN 3: ANODE 2**



## TYPICAL OPERATING CURVES

$T_A = 25^\circ C$  Unless otherwise specified

