



## Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
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### Designer's Data Sheet

#### Part Number/Ordering Information <sup>1/</sup>

**SSR4045 CT M TX**

Screening <sup>2/</sup> = Not Screened  
TX = TX Level  
TXV = TXV Level  
S = S Level

Lead Bend:  
= Straight  
UB = Up Bend  
DB = Down Bend

Package: M = TO-254  
Z = TO-254Z

Configuration: CT = Common Cathode  
CA = Common Anode  
D = Doubler

## SSR4045CTM SSR4045CTZ

### 40 AMP, 45 VOLTS POSITIVE CENTERTAP SCHOTTKY RECTIFIER

#### FEATURES:

- Low Forward Voltage Drop
- Low Reverse Leakage
- Guard Ring for Overvoltage Protection
- Isolated Hermetically Sealed Power Package
- Available in Glass or Ceramic Seal Packages
- Eutectic Die Attach
- 175°C Operating Temperature
- TX, TXV, or Space Level Screening Available

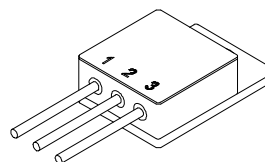
### MAXIMUM RATINGS

| RATING                                                                                         | SYMBOL                          | VALUE       | UNIT  |
|------------------------------------------------------------------------------------------------|---------------------------------|-------------|-------|
| Peak Repetitive Reverse and DC Blocking Voltage                                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 45          | Volts |
| Average Rectified Forward Current<br>(Resistive Load, 60Hz, Sine Wave, TC=55°C) <sup>3/</sup>  | $I_O$                           | 40          | Amps  |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave, TA=25°C) <sup>3/</sup>                    | $I_{FSM}$                       | 600         | Amps  |
| Operating and Storage Temperature                                                              | $T_{OP}$ & $T_{STG}$            | -65 to +175 | °C    |
| Maximum Thermal Resistance<br>Junction to Case <sup>4/</sup><br>Junction to Case <sup>5/</sup> | $R_{\theta JC}$                 | 1.0<br>2.0  | °C/W  |

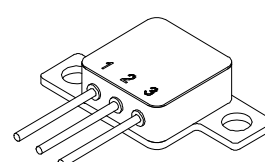
#### NOTES:

- <sup>1/</sup> For ordering information, price, and availability, contact factory.  
<sup>2/</sup> Screening per MIL-PRF-19500  
<sup>3/</sup> Both legs tied together. For doubler configuration, value shall be half of the value shown, tested per leg  
<sup>4/</sup> Both legs tied together. For doubler configuration, both dies tested in series  
<sup>5/</sup> Per leg

TO-254



TO-254Z



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

**DATA SHEET #: RS0031E**

**DOC**



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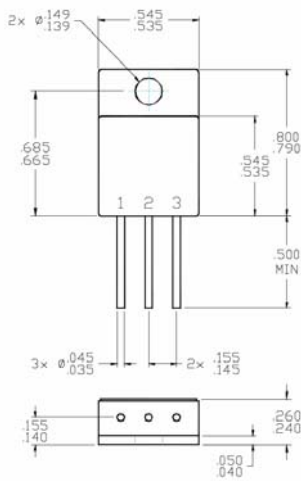
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**SSR4045CTM**  
**SSR4045CTZ**

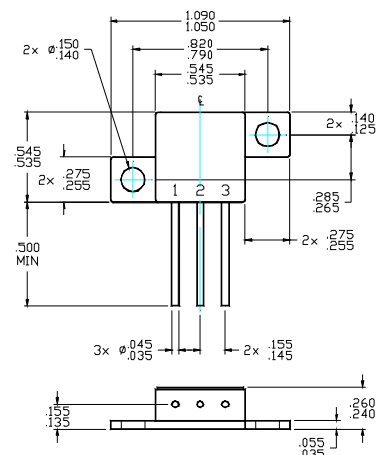
## ELECTRICAL CHARACTERISTICS <sup>5/</sup>

| CHARACTERISTICS                                                                                                                 | SYMBOL             | MAXIMUM | UNIT          |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------|---------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_A = 25^\circ\text{C}$ , 300-500 $\mu\text{sec}$ Pulse)                        | $I_F = 5\text{A}$  |         |               |
|                                                                                                                                 | $V_{F1}$           | 0.52    |               |
|                                                                                                                                 | $I_F = 10\text{A}$ |         |               |
|                                                                                                                                 | $V_{F2}$           | 0.60    | Vdc           |
|                                                                                                                                 | $I_F = 20\text{A}$ |         |               |
|                                                                                                                                 | $V_{F3}$           | 0.77    |               |
| <b>Instantaneous Forward Voltage Drop</b><br>( $I_F = 10\text{A}$ , $T_A = -55^\circ\text{C}$ , 300-500 $\mu\text{sec}$ Pulse ) | $V_{F4}$           | 0.67    | Vdc           |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse Minimum )                 | $I_{R1}$           | 200     | $\mu\text{A}$ |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 100^\circ\text{C}$ , 300 $\mu\text{sec}$ Pulse Minimum )                | $I_{R2}$           | 15      | mA            |
| <b>Junction Capacitance</b><br>( $V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_A = 25^\circ\text{C}$ )                            | $C_J$              | 800     | pF            |

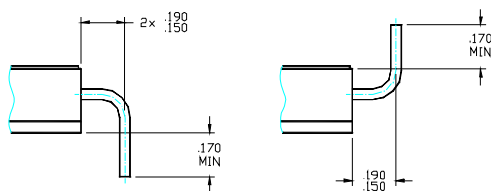
### CASE OUTLINE: TO-254



### CASE OUTLINE: TO-254Z (Suffix Z)



### OPTIONAL LEAD BEND CONFIGURATION



SUFFIX MDB & ZDB SUFFIX MUB & ZUB

### Pin Assignment:

| Code | Function       | Pin 1   | Pin 2   | Pin 3   |
|------|----------------|---------|---------|---------|
| CT   | Common Cathode | Anode   | Cathode | Anode   |
| CA   | Common Anode   | Cathode | Anode   | Cathode |
| D    | Doubler        | Cathode | AC      | Anode   |
|      |                |         |         |         |
|      |                |         |         |         |

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