



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, CA 90638-5223

Phone: (562) 404-4474 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* [www.ssdi-power.com](http://www.ssdi-power.com)

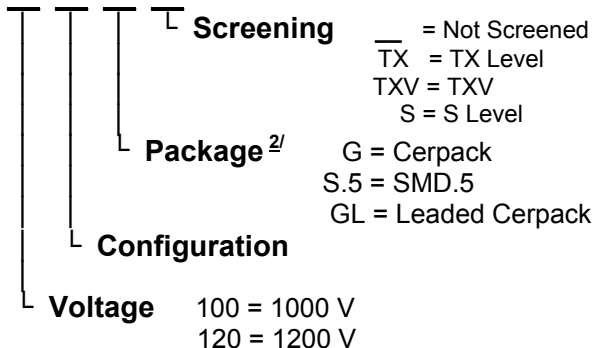
## SSR05C120 Series

### 5 A / 1200 V Schottky Silicon Carbide Rectifier

#### Designer's Data Sheet

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

SSR05C



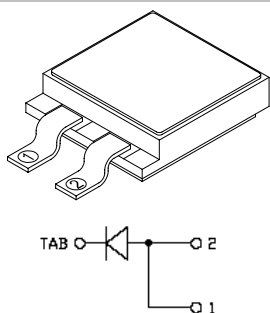
##### FEATURES:

- 1200 Volt Silicon Carbide Schottky Rectifier
- Average Output Current 5 Amps
- No Reverse Recovery
- No Forward Recovery
- No Switching Time Change Over Temperature
- Small Package Size
- TX, TXV, and Space Level Screening Available. Consult Factory.

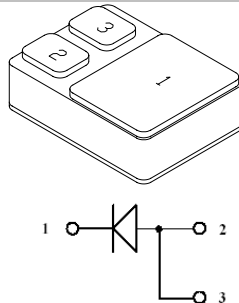
#### MAXIMUM RATINGS

|                                                                                 |                        | Symbol               | Value        | Units              |
|---------------------------------------------------------------------------------|------------------------|----------------------|--------------|--------------------|
| Peak Repetitive and Peak Reverse Voltage                                        | SSR05C100<br>SSR05C120 | $V_{RRM}$<br>$V_R$   | 1000<br>1200 | Volts              |
| Average Rectified Forward Current<br>(Resistive Load, 60 Hz, Sine Wave)         |                        | $I_O$                | 5            | Amps               |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$ ) |                        | $I_{FSM}$            | 60           | Amps               |
| Operating & Storage Temperature                                                 |                        | $T_{OP}$ & $T_{stg}$ | -55 to +250  | $^\circ\text{C}$   |
| Junction Temperature                                                            |                        | $T_J$                | -55 to +250  | $^\circ\text{C}$   |
| Maximum Thermal Resistance<br>(Junction to Case)                                |                        | $R_{\theta JC}$      | 3.0          | $^\circ\text{C/W}$ |

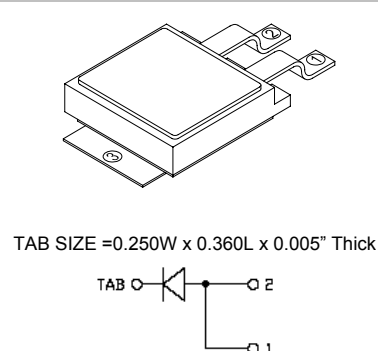
CERPACK (G) <sup>2/</sup>  
Drawing# 60-0149-366



SMD .5 (S.5) <sup>2/</sup>  
Drawing# 60-0149-507



LEADED CERPACK (GL) <sup>2/</sup>  
Drawing# 60-0149-366-1



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

**DATA SHEET #: SH0030E**

**DOC**



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## SSR05C120 Series

| ELECTRICAL CHARACTERISTICS <sup>3/</sup>                                                                          |                                                   | Symbol   | Min | Typ  | Max  | Units         |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------|-----|------|------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_A=25^{\circ}\text{C}$ , 300 - 500 $\mu\text{sec}$ pulse)        | $I_F = 2.0 \text{ A}$                             | $V_{F1}$ | —   | 1.21 | 1.30 | $V_{DC}$      |
|                                                                                                                   | $I_F = 5.0 \text{ A}$                             | $V_{F2}$ | —   | 1.65 | 1.75 | $V_{DC}$      |
| <b>Instantaneous Forward Voltage Drop</b><br>(300 - 500 $\mu\text{sec}$ pulse)                                    | $T_A = -55^{\circ}\text{C}$ , $I_F = 5 \text{ A}$ | $V_{F4}$ | —   | 1.46 | 1.50 | $V_{DC}$      |
|                                                                                                                   | $T_A = 150^{\circ}\text{C}$ , $I_F = 5 \text{ A}$ | $V_{F5}$ | —   | 2.60 | 2.80 | $V_{DC}$      |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 25^{\circ}\text{C}$ , 300 $\mu\text{sec}$ pulse minimum)  |                                                   | $I_{R1}$ | —   | 20   | 250  | $\mu\text{A}$ |
| <b>Reverse Leakage Current</b><br>(Rated $V_R$ , $T_A = 150^{\circ}\text{C}$ , 300 $\mu\text{sec}$ pulse minimum) |                                                   | $I_{R2}$ | —   | 100  | 1000 | $\mu\text{A}$ |
| <b>Junction Capacitance</b><br>( $V_R = 10\text{V}$ , $f = 1\text{MHz}$ , $T_A = 25^{\circ}\text{C}$ )            |                                                   | $C_J$    | —   | 280  | 320  | $\text{pF}$   |

**NOTES:** \* Pulse Test: Pulse Width = 300  $\mu\text{sec}$ , Duty Cycle = 2%

1/ For Ordering Information, Price, and Availability Contact Factory.

2/ For Package Outlines Contact Factory.

3/ Unless Otherwise Specified, All Electrical Characteristics @25°C

### Available Part Numbers:

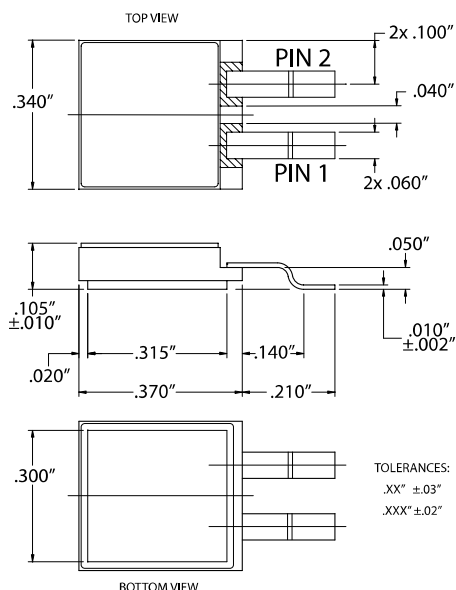
SSR05C100G, SSR05C100GL, SSR05C100S.5

SSR05C120G, SSR05C120GL, SSR05C120S.5

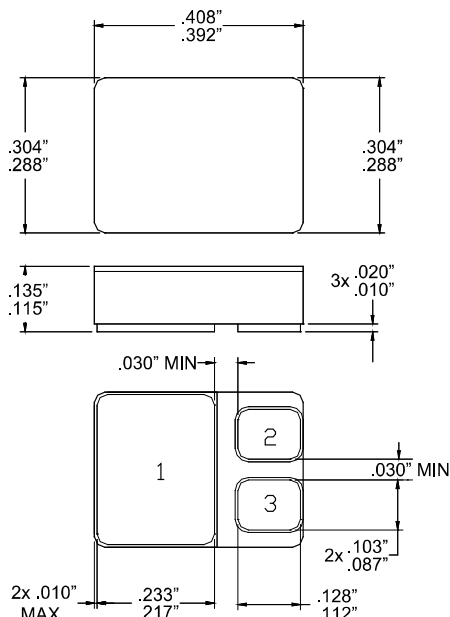
### PIN ASSIGNMENT

| Package                    | Pin 1   | Pin 2 | Pin 3   |
|----------------------------|---------|-------|---------|
| <b>Cerpack (G)</b>         | Anode   | Anode | Cathode |
| <b>SMD.5 (S.5)</b>         | Cathode | Anode | Anode   |
| <b>Cerpack Leaded (GL)</b> | Anode   | Anode | Cathode |

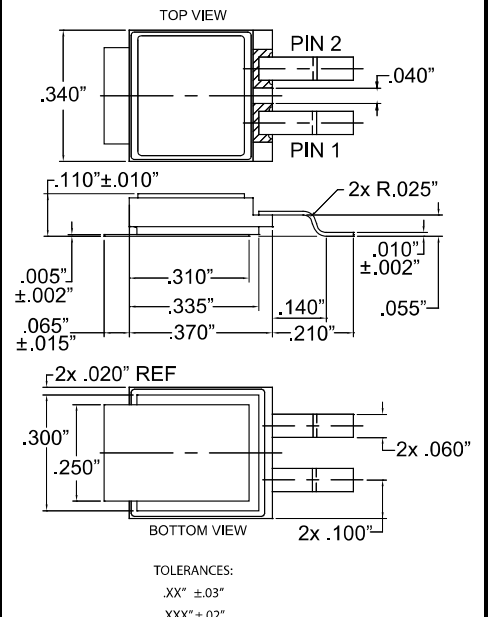
### Package Outline: CERPACK



### Package Outline: SMD.5



### Package Outline: LEADED CERPACK



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