



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

## DESIGNER'S DATA SHEET

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

SSR24C 60 CT S.5 TX

#### Screening <sup>2/</sup>

— = Not Screened

TV = TX Level

TXV = TXV Level

S = S Level

#### Package

S.5 = SMD.5

G = Cerpack

#### Configuration

CT = Centertap

#### Voltage

30 = 300 V

50 = 500 V

60 = 600 V

## SSR24C60CT Series

## 24 Amp Schottky Silicon Carbide Centertap Rectifier 300 - 600 Volts

### Features:

- World's Smallest Hermetic SiC Centertap Rectifier
- High Voltage, 600V
- Very High Operating Temperature, 250°C
- No Recovery Time (tfr or trr)
- High Current Operation, 24A
- Hermetically Sealed Packaging
- TX, TXV, and S Level screening available

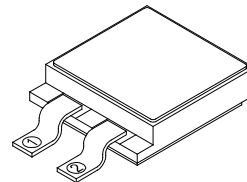
### Maximum Ratings <sup>3/</sup>

|                                                                                                    |                  | Symbol                 | Value       | Units |
|----------------------------------------------------------------------------------------------------|------------------|------------------------|-------------|-------|
| <b>Peak Repetitive and Peak Surge Reverse Voltage</b>                                              | SSR24C30         | $V_{RRM}$<br>$V_{RSM}$ | 300         | Volts |
|                                                                                                    | SSR24C50         |                        | 500         |       |
|                                                                                                    | SSR24C60         |                        | 600         |       |
| <b>Average Rectified Forward Current</b><br>(Resistive Load, 60 Hz, Sine Wave)                     | Per Leg<br>Total | $I_o$                  | 12          | Amps  |
|                                                                                                    |                  |                        | 24          |       |
| <b>Non Repetitive Peak Surge Current</b><br>(8.3 ms Pulse, Non-repetitive Half Sine Wave, per leg) |                  | $I_{FSM}$              | 50          | Amps  |
| <b>Power Dissipation</b><br>( $T_c = 25^\circ\text{C}$ )                                           |                  | $P_D$                  | 120         | Watts |
| <b>Operating &amp; Storage Temperature <sup>4/</sup></b>                                           |                  | Top & Tstg             | -55 to +250 | °C    |
| <b>Maximum Thermal Resistance</b>                                                                  | Junction to Case | $R_{\theta JC}$        | 1.9         | °C/W  |

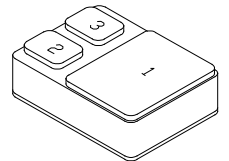
### NOTES:

- <sup>1/</sup> For ordering information, price, operating curves, and availability – contact factory.
- <sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.
- <sup>3/</sup> All Electrical Characteristics @25°C Unless Otherwise Specified.
- <sup>4/</sup> If high temp operation is desired (>175°C) consult factory for soldering consideration.

Cerpack (G)



SMD .5 (S.5)



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

**DATA SHEET #: RS0020H**

**DOC**



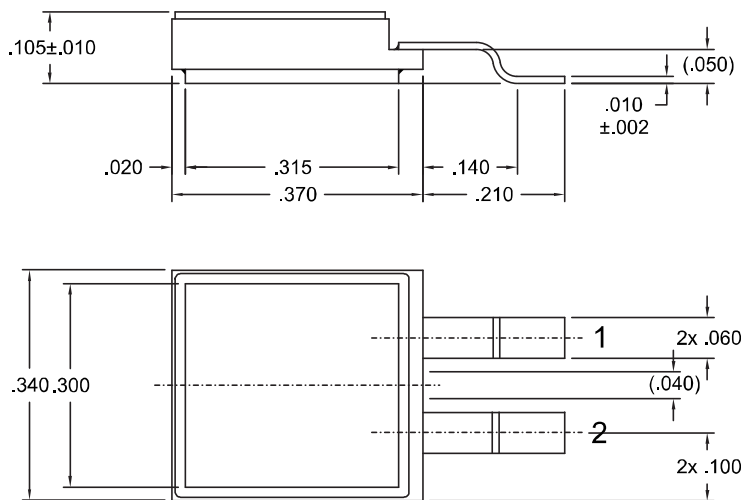
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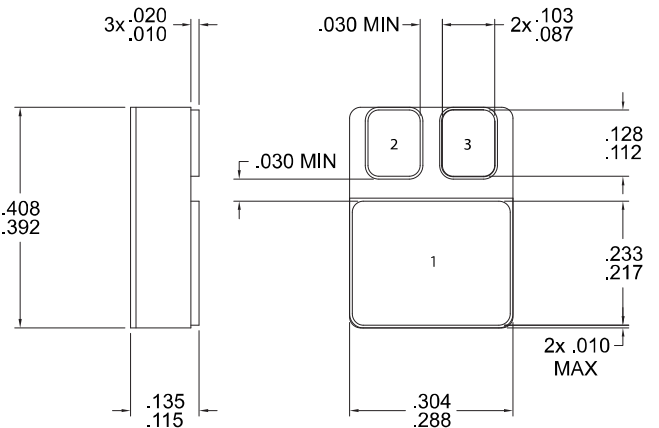
## SSR24C60CT Series

| Electrical Characteristic (Per Leg)                                                                                                                |                    | Symbol   | Min | Typ  | Max  | Units         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|-----|------|------|---------------|
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_J = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)                                               | $I_F = 6\text{A}$  | $V_{F1}$ | —   | 1.20 | 1.38 | Volts         |
|                                                                                                                                                    | $I_F = 12\text{A}$ |          |     | 1.50 | 1.70 |               |
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_J = 150^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)                                              | $I_F = 6\text{A}$  | $V_{F2}$ | —   | 1.35 | 1.55 | Volts         |
|                                                                                                                                                    | $I_F = 12\text{A}$ |          |     | 1.85 | 2.15 |               |
| <b>Instantaneous Forward Voltage Drop</b><br>( $T_J = -55^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)                                              | $I_F = 6\text{A}$  | $V_{F3}$ | —   | 1.27 | 1.40 | Volts         |
|                                                                                                                                                    | $I_F = 12\text{A}$ |          |     | 1.50 | 1.70 |               |
| <b>Reverse Leakage Current</b><br>( $V_R = \text{Rated } V_R$ , $T_J = 25^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)                              |                    | $I_{R1}$ | —   | 1    | 200  | $\mu\text{A}$ |
| <b>Reverse Leakage Current</b><br>( $V_R = \text{Rated } V_R$ , $T_J = 150^\circ\text{C}$ , 300 $\mu\text{sec}$ pulse)                             |                    | $I_{R2}$ | —   | 5    | 1000 | $\mu\text{A}$ |
| <b>Junction Capacitance</b><br>( $V_R = 10\text{ Vdc}$ , $T_C = 25^\circ\text{C}$ , $f=1\text{MHz}$ )                                              |                    | $C_j$    | —   | 280  | —    | pF            |
| <b>Total Capacitive Charge</b><br>( $V_R = 10\text{ Vdc}$ , $I_F = 12\text{A}$ , $di/dt \geq 200\text{A}/\mu\text{s}$ , $T_J = 25^\circ\text{C}$ ) |                    | $Q_c$    | —   | 35   | —    | nC            |

### CASE OUTLINE: CERPACK (G)



### CASE OUTLINE: SMD .5 (S.5)



### Available Part Numbers:

SSR24C60CTS.5    SSR24C50CTS.5    SSR24C30CTS.5  
 SSR24C60CTG    SSR24C50CTG    SSR24C30CTG

### PIN ASSIGNMENT

| Package      | Pin 1   | Pin 2 | Pin 3   |
|--------------|---------|-------|---------|
| SMD .5 (S.5) | Cathode | Anode | Anode   |
| Cerpack (G)  | Anode   | Anode | Cathode |

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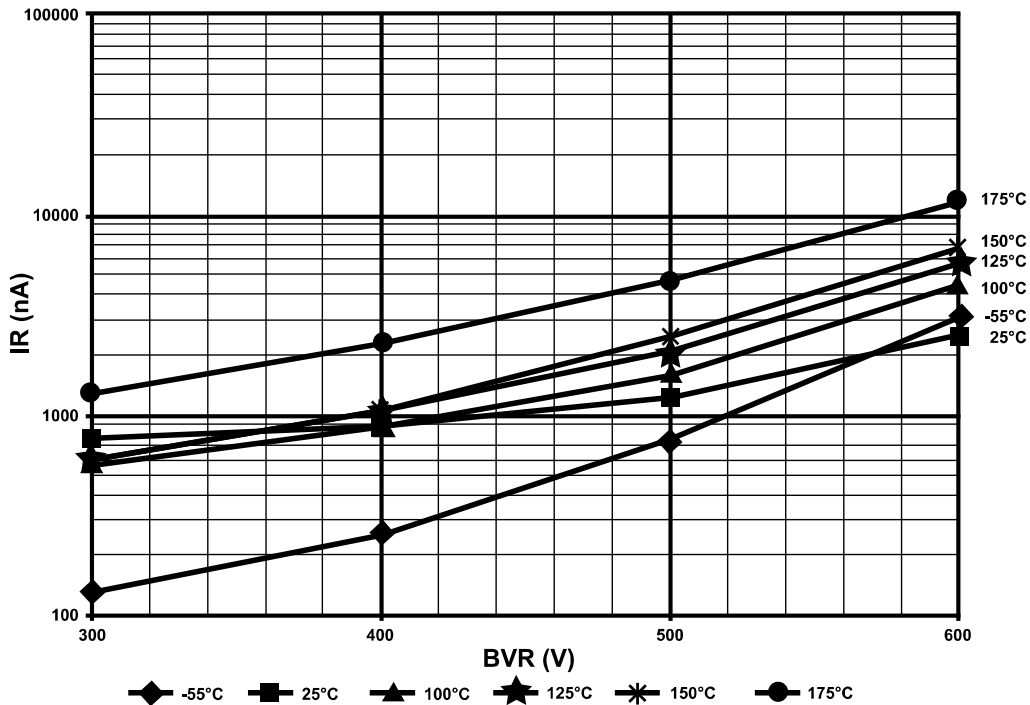
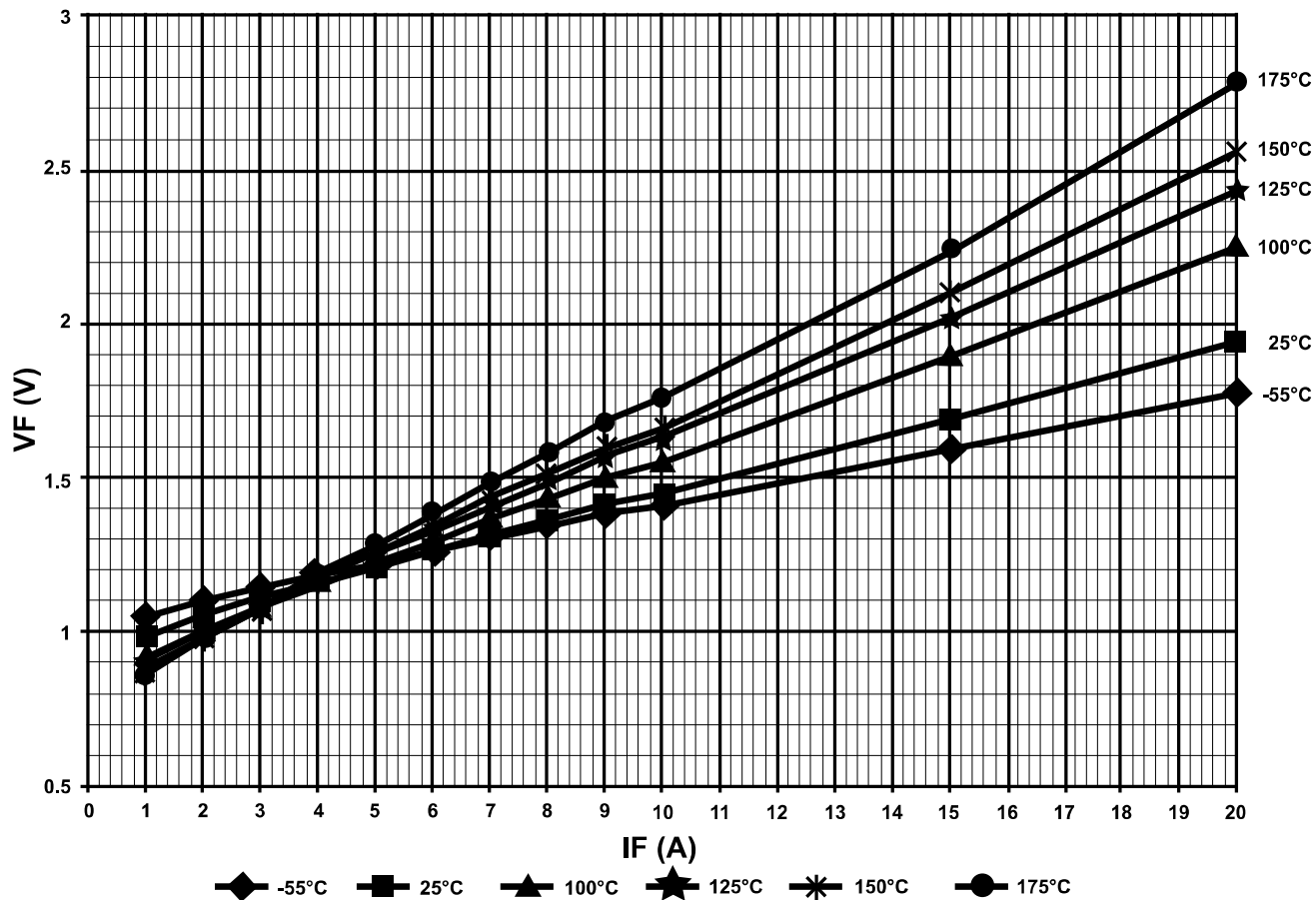
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