



**Solid State Devices, Inc.**

14830 Valley View Blvd \* La Mirada, Ca 90638

Phone: (562) 404-7855 \* Fax: (562) 404-1773

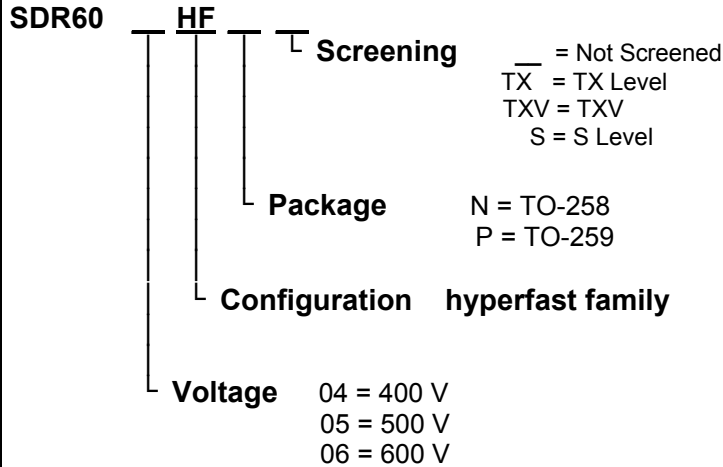
ssdi@ssdi-power.com \* www.ssdi-power.com

# SDR6006HF series

**60A 35nsec**  
**400 to 600 V**  
**Hyper Fast Rectifier**

## DESIGNER'S DATA SHEET

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

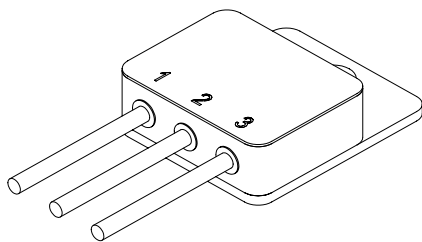


### Features:

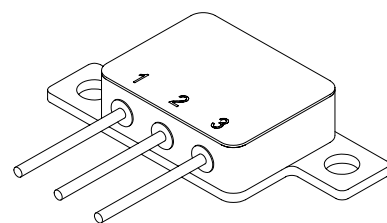
- Hyper Fast Recovery: 35nsec Maximum
- High Surge Rating
- Low Reverse Leakage Current
- Low Junction Capacitance
- Hermetically Sealed, Isolated Package providing enhanced thermal performance
- Eutectic Die Attach
- TX, TXV, and S Level Screening iaw MIL-PRF-19500 Available

| Maximum Ratings  |                                     | Symbol               | Value             | Units              |
|--|-------------------------------------|----------------------|-------------------|--------------------|
| Peak Repetitive Reverse Voltage  | SDR6004HF<br>SDR6005HF<br>SDR6006HF | $V_{RRM}$            | 400<br>500<br>600 | Volts              |
| Average Rectified Forward Current<br>(Resistive Load, 60 Hz Sine Wave, $T_C = 100\text{ }^\circ\text{C}$ ) | Total                               | $I_o$                | 60                | Amps               |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave, $T_A = 25\text{ }^\circ\text{C}$ )                    |                                     | $I_{FSM}$            | 750               | Amps               |
| Operating & Storage Temperature  |                                     | $T_{OP}$ & $T_{STG}$ | -65 to +200       | $^\circ\text{C}$   |
| Maximum Total Thermal Resistance<br>Junction to Case   |                                     | $R_{\theta JC}$      | 1.0<br>(0.6 typ)  | $^\circ\text{C/W}$ |

TO-258 (N)



TO-259 (P)



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

**DATA SHEET #: RC0093A**

**DOC**



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# SDR6006HF Series

| Electrical Characteristic  |                           | Symbol   | Min | Max    | Units         |
|--|---------------------------|----------|-----|--------|---------------|
| Instantaneous Forward Voltage Drop<br>( $T_A = 25^\circ\text{C}$ , 300 – 500 $\mu\text{sec}$ Pulse)                          | $I_F = 20\text{ A}$       | $V_{F1}$ |     | 1.25   | $V_{DC}$      |
|  | $I_F = 40\text{ A}$       | $V_{F2}$ | —   | 1.40   |               |
|  | $I_F = 60\text{ A}$       | $V_{F3}$ |     | 1.55   |               |
| Instantaneous Forward Voltage Drop<br>( $I_F = 40\text{ A}$ , 300 – 500 $\mu\text{sec}$ Pulse)                               | $T_A = -55^\circ\text{C}$ | $V_{F3}$ | —   | 1.50   | $V_{DC}$      |
|  | $T_A = 100^\circ\text{C}$ | $V_{F4}$ |     | 1.35   |               |
| Reverse Leakage Current<br>(100% of rated $V_R$ , 300 $\mu\text{s}$ pulse min.)  | $T_A = 25^\circ\text{C}$  | $I_{R1}$ | —   | 100    | $\mu\text{A}$ |
|  | $T_A = 100^\circ\text{C}$ | $I_{R2}$ | —   | 10,000 | $\mu\text{A}$ |
| Reverse Recovery Time<br>( $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_{RR} = 0.25\text{ A}$ , $T_A = 25^\circ\text{C}$ ) |                           | $t_{RR}$ | —   | 35     | nsec          |
| Junction Capacitance<br>( $V_R = 10V_{DC}$ , $T_A = 25^\circ\text{C}$ , $f = 1\text{ MHz}$ )                                 |                           | $C_J$    | —   | 150    | pF            |

**NOTES:**

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

**Available Part Numbers:**

SDR6004HFN, SDR6004HFP

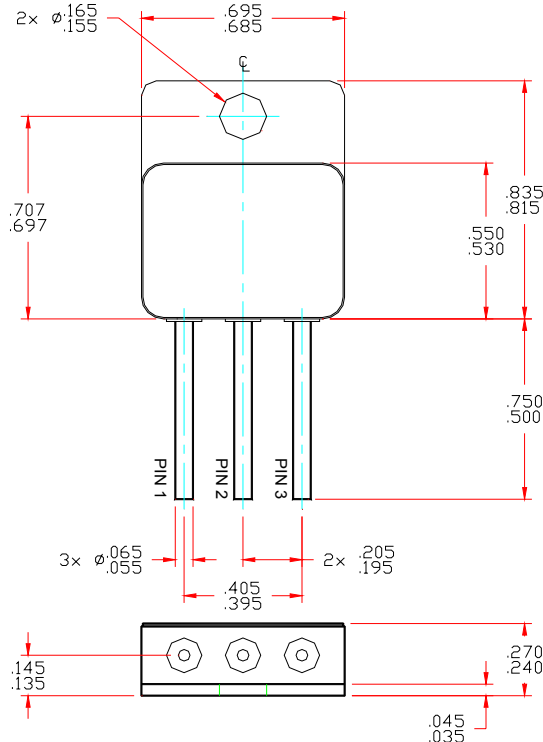
SDR6005HFN, SDR6005HFP

SDR6006HFN, SDR6006HFP

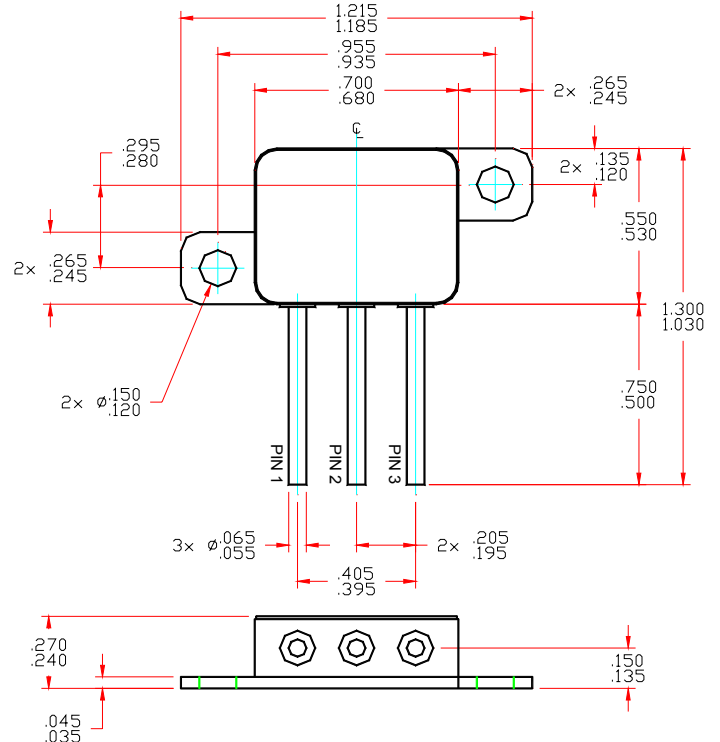
**PIN ASSIGNMENT**

| PACKAGE    | Pin 1   | Pin 2 | Pin 3 |
|------------|---------|-------|-------|
| TO-258 (N) | Cathode | Anode | Anode |
| TO-259 (P) | Cathode | Anode | Anode |

TO-258:



TO-259:



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