**Solid State Devices, Inc.**
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# SDR30010H/61 thru SDR30020H/61

## Designer's Data Sheet

**Part Number/Ordering Information** [1/]

**SDR30 __ H __ __**

- **Screening** [2/]
  - __ = Not Screened
  - TX = TX Level
  - TXV = TXV Level
  - S = S Level
- **Package** /61 = TO-61
- **Recovery Time** H = Hyper Fast
- **Family/Voltage** 010 = 100V, 015 = 150V, 020 = 200V

## 30 AMP HYPER FAST RECTIFIER

**100 - 200 VOLTS**

**35 nsec**

**FEATURES:**

- **Hyper Fast Recovery: 35 ns Maximum**
- **High Surge Rating**
- **Low Reverse Leakage Current**
- **Low Junction Capacitance**
- **Gold Eutectic Die Attach Available**
- **Ultrasonic Aluminum Wire Bonds**
- **TX, TXV, or Space Level Screening Available**

| Maximum Ratings | | Symbol | Value | Units |
|---|---|---|---|---|
| **Peak Repetitive Reverse and DC Blocking Voltage** [3/] | **SDR30010**<br>**SDR30015**<br>**SDR30020** | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100<br>150<br>200 | **Volts** |
| **Average Rectified Forward Current** (Resistive Load, 60 Hz Sine Wave, $T_C$= 100ºC) | | $I_O$ | 30 | **Amps** |
| **Peak Surge Current** (8.3 ms Pulse, Half Sine Wave, $T_A$= 25ºC) | | $I_{FSM}$ | 250 | **Amps** |
| **Operating & Storage Temperature** | | $T_{OP}$ & $T_{STG}$ | -65 to +200 | **ºC** |
| **Maximum Total Thermal Resistance** Junction to Case | | $R_{\theta JC}$ | 1.5 | **ºC/W** |

**NOTES:**

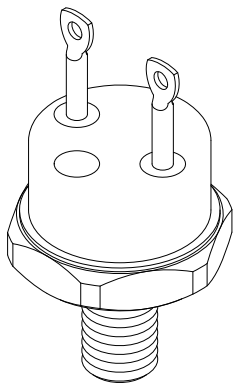
**1/** For ordering information, price, and availability, contact factory.

**2/** Screening based on MIL-PRF-19500. Screening flows available on request.

**3/** Higher voltages available.

**4/** Both anodes tied together.

**TO-61**



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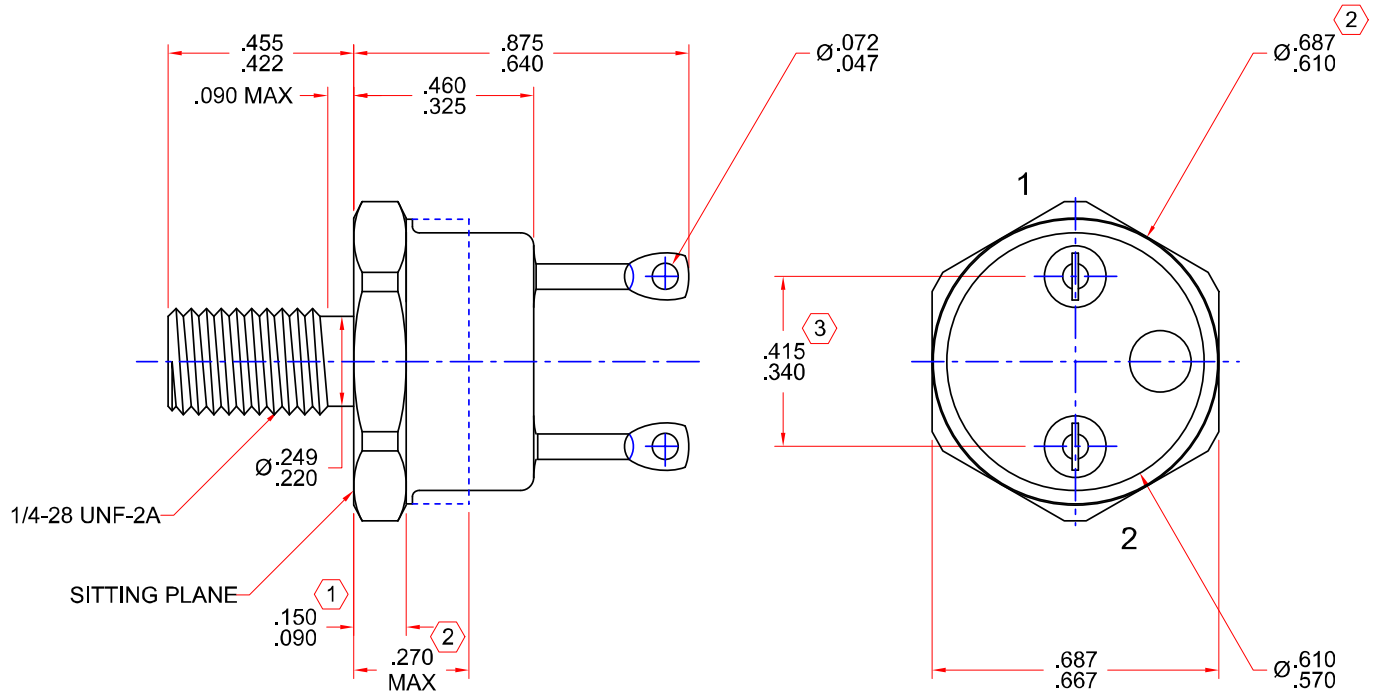
# SDR30010H/61 thru SDR30020H/61

| Electrical Characteristic | | Symbol | Typ | Max | Units |
|---|---|---|---|---|---|
| **Instantaneous Forward Voltage Drop** ($T_A$ = 25ºC, 300 – 500 µsec Pulse) | $I_F$ = 30 A | $V_{F1}$ | 1.10 | 1.20 | $V_{DC}$ |
| **Instantaneous Forward Voltage Drop** ($T_A$ = -55ºC, 300 – 500 µsec Pulse) | $I_F$ = 30 A | $V_{F2}$ | 1.20 | 1.30 | $V_{DC}$ |
| **Reverse Leakage Current** (100% of rated $V_R$, 300 µs pulse min.) | $T_A$ = 25ºC<br>$T_A$ = 125ºC | $I_{R1}$<br>$I_{R2}$ | 0.05<br>15 | 10<br>100 | µA |
| **Reverse Recovery Time** ($I_F$ = 0.5 A, $I_R$ = 1 A, $I_{RR}$ = 0.25 A, $T_A$ = 25ºC) | | $t_{RR}$ | 30 | 35 | nsec |
| **Junction Capacitance** ($T_A$ = 25ºC, f = 1 MHz) | $V_R$ = 10 $V_{DC}$ | $C_J$ | 350 | 500 | pF |

## CASE OUTLINE: TO-61




NOTES:
1. DIMENSION DOES NOT INCLUDE SEALING FLANGES.
2. PACKAGE CONTOUR OPTIONAL WITHIN DIMENSIONS SPECIFIED.
3. POSITION OF LEADS IN RELATION TO HEXAGON IS NOT CONTROLLED.

**PIN ASSIGNMENT**

| Package | Stud | Pin 1 | Pin 2 |
|---|---|---|---|
| TO-61 | N/C | Anode | Cathode |