**Solid State Devices, Inc.**
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# SDR6304 thru SDR6307

## Designer's Data Sheet

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

**SDR** ___ ___

**Screening** [2/]
__ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

**Family/Voltage**
6304 = 50V
6305 = 100V
6306 = 150V
6307 = 200V

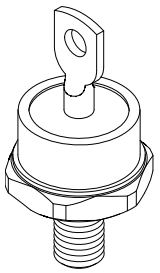
## 70 Amp
## Ultra Fast Recovery Rectifier
**50 - 200 Volts**
**50 nsec**

**Features:**
- **Fast Recovery: 50nsec Maximum**
- **Low Forward Voltage Drop**
- **Low Reverse Leakage Current**
- **Single Chip Construction**
- **Hermetically Sealed**
- **For High Efficiency Applications**
- **Replacement for 1N6304, 1N6305, and 1N6306**
- **TX, TXV, and S-Level Screening Available** [2/]

| Maximum Ratings [3/] | | Symbol | Value | Units |
|---|---|---|---|---|
| **Peak Repetitive Reverse Voltage and DC Blocking Voltage @ 100µA** | SDR6304<br>SDR6305<br>SDR6306<br>SDR6307 | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50<br>100<br>150<br>200 | Volts |
| **Average Rectified Forward Current** (Resistive Load, 60 Hz Sine Wave, $T_A$ = 25 °C) | | Io | 70 | Amps |
| **Peak Surge Current** (8.3 ms Pulse, Half Sine Wave, $T_A$ = 25 °C) | | $I_{FSM}$ | 800 | Amps |
| **Operating & Storage Temperature** | | $T_{OP}$ & $T_{STG}$ | -55 to +175 | ºC |
| **Thermal Resistance** (Junction to Case) | | $R_{\theta JC}$ | 0.8 | ºC/W |

**Notes:** **1/ For ordering information, price, operating curves, and availability- Contact factory.**
**2/ Screening based on MIL-PRF-19500. Screening flows available on request.**
**3/ Unless otherwise specified, all maximum ratings/electrical characteristics @25°C.**

**DO-5**



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# SDR6306

| Electrical Characteristics [3/] | | Symbol | Value | Units |
|---|---|---|---|---|
| **Maximum Instantaneous Forward Voltage Drop** ($I_F$ =70Adc, $T_A$ = 25 ºC, 300-500µs Pulse) | | $V_{F1}$ | 0.975 | $V_{DC}$ |
| **Maximum Instantaneous Forward Voltage Drop** ($I_F$ =70Adc, $T_A$ = 150 ºC, 300-500µs Pulse) | | $V_{F2}$ | 0.84 | $V_{DC}$ |
| **Maximum Reverse Leakage Current** (Rated $V_R$, 300µs minimum pulse) | $T_A$ = 25 ºC<br>$T_A$ = 150 ºC | $I_{R1}$<br>$I_{R2}$ | 25<br>30 | µA<br>mA |
| **Maximum Reverse Recovery Time** ($I_F$ = 500 mA, $I_R$ = 1 Amp, $I_{RR}$ = 250 mA) | $T_A$ = 25 ºC | $t_{RR}$ | 50 | nsec |
| **Maximum Junction Capacitance** ($V_R$ = 10$V_{DC}$, $T_A$ = 25ºC, f = 1MHz) | | $C_J$ | 700 | pF |

**Table 1- PIN ASSIGNMENT**

| Code | Configuration | Terminal | Stud |
|---|---|---|---|
| — | Normal | Anode | Cathode |
| R | Reverse | Cathode | Anode |

## DO-5 Outline (Normal Pin Configuration Shown):