Solid State Devices, Inc.
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SDR504 Thru SDR510

Designer's Data Sheet

Part Number/Ordering Information [1/]

SDR5 ___ ___ ___

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

Pin Configuration (See Table 1)
- __ = Normal (Cathode to Stud)
- R = Reverse (Anode to Stud)

Family/Voltage
- 04 = 400V
- 06 = 600V
- 08 = 800V
- 10 = 1000V

50 Amp
400-1000 Volt
80 nsec
ULTRA FAST RECOVERY RECTIFIER

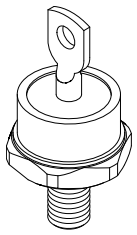
Features:

- **Ultra fast recovery: 80 nsec maximum**
- **Low reverse leakage current**
- **Low thermal resistance**
- **High surge capability**
- **Hermetically sealed**
- **For high efficiency applications**
- **PIV to 1000V**
- **TX, TXV, and S-Level Screening Available** [2/]

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage	**SDR504** **SDR506** **SDR508** **SDR510**	V_{RRM} V_{RWM} V_R	400 600 800 1000	**Volts**
Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T_A = 25 °C)		I_O	50	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, T_A = 25 °C)		I_{FSM}	625	**Amps**
Operating & Storage Temperature		T_{OP} & T_{STG}	-65 to +175	**ºC**
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.0	**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.

DO-5:



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Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop (I_F = 50 Adc, T_A = 25 ºC, 300µs pulse)		V_F	1.7	V_{DC}
Instantaneous Forward Voltage Drop (I_F = 50 Adc, T_A = -55 ºC, 300µs pulse)		V_F	1.85	V_{DC}
Reverse Leakage Current (Rated V_R, T_A = 25 ºC, 300µs pulse minimum)		I_R	25	µA
Reverse Leakage Current (Rated V_R, T_A = 100 ºC, 300µs pulse minimum)		I_R	8	mA
Reverse Recovery Time (I_F = 500 mA, I_R = 1 Amp, I_{RR} = 250 mA, T_A = 25 ºC)		t_{RR}	80	nsec
Junction Capacitance (V_R = 10V_{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):

