



Solid State Devices, Inc.

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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

**SDR504
Thru
SDR510**

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

Features:

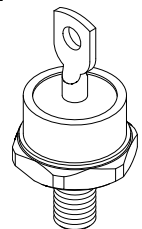
- Ultra fast recovery: 80 nsec maximum
- Low reverse leakage current
- Low thermal resistance
- High surge capability
- Hermetically sealed
- For high efficiency applications
- PIV to 1000V
- TX, TXV, and S-Level Screening Available ^{2/}

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, $T_A = 25^\circ\text{C}$)		I_O	50	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ\text{C}$)		I_{FSM}	625	Amps
Operating & Storage Temperature		$T_{OP} \& T_{STG}$	-65 to +175	$^\circ\text{C}$
Maximum Total Thermal Resistance Junction to Case		$R_{\theta JC}$	1.0	$^\circ\text{C/W}$

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:



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

DATA SHEET #: RU0049B

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Electrical Characteristics		Symbol	Max	Units
Instantaneous Forward Voltage Drop (I _F = 50 Adc, T _A = 25 °C, 300μs pulse)		V _F	1.7	V _{DC}
Instantaneous Forward Voltage Drop (I _F = 50 Adc, T _A = -55 °C, 300μs pulse)		V _F	1.85	V _{DC}
Reverse Leakage Current (Rated V _R , T _A = 25 °C, 300μs pulse minimum)		I _R	25	μA
Reverse Leakage Current (Rated V _R , T _A = 100 °C, 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 °C)		t _{RR}	80	nsec
Junction Capacitance (V _R = 10V _{DC} , T _A = 25°C, f = 1MHz)		C _J	700	pF

Table 1- PIN ASSIGNMENT			
Code	Configuration	Terminal	Stud
—	Normal	Anode	Cathode
R	Reverse	Cathode	Anode

Technical drawing of a 1/4-28 UNF-2A hex nut with a locking feature. The drawing includes a top view and a side view.

Top View Dimensions:

- Hex width: .687
- Hex height: .667
- Central hole diameter: $\varnothing .175$
- Hole depth: .140
- Hex thickness: .080 MAX

Side View Dimensions:

- Hex width: .667 MAX
- Locking feature width: .375 MAX
- Locking feature depth: .667 MAX
- Total length: 1.00 MAX
- Hex thickness: .453
- Locking feature height: .422
- Thread pitch: .220
- Thread pitch: .249
- Thread pitch: .200
- Thread pitch: .115
- Thread pitch: .450 MAX
- Thread pitch: .280 MAX

Thread Specification: 1/4-28 UNF-2A

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