



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

**SDR600  
Thru  
SDR608**

**15 A, 45-60 nsec, 50-800 V  
Ultra Fast Rectifier**

**Designer's Data Sheet**

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

**SDR**

— Screening <sup>3/</sup>

— = Not Screened  
TX = TX Level  
TXV = TXV  
S = S Level

**Voltage**

600 = 50V  
601 = 100V  
602 = 200V  
603 = 300V  
604 = 400V  
605 = 500 V  
606 = 600V  
607 = 700V  
608 = 800V

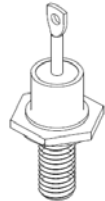
- Features:**
- Ultra Fast Recovery: 45-60 nsec Maximum
  - Low Reverse Leakage Current
  - Single Chip Construction
  - PIV to 800 Volts
  - Hermetically Sealed
  - High Surge Rating
  - Low Thermal Resistance
  - Also available in 2 Pin TO-59 or TO-111
  - Isolated Package upon request
  - TX, TXV, and Space Level Screening Available

Maximum Ratings <sup>2/</sup>	Symbol	Value	Units
<b>Peak Repetitive Reverse Voltage and DC Blocking Voltage</b>	SDR600	50	Volts
	SDR601	100	
	SDR602	200	
	SDR603	300	
	SDR604	400	
	SDR605	500	
	SDR606	600	
	SDR607	700	
	SDR608	800	
<b>Average Rectified Forward Current</b> (Resistive Load, 60 Hz, Sine Wave, T <sub>A</sub> = 25°C)	I <sub>O</sub>	15	Amps
<b>Peak Surge Current</b> (8.3 ms Pulse, Half Sine Wave, T <sub>A</sub> = 25°C)	I <sub>FSM</sub>	180	Amps
<b>Operating &amp; Storage Temperature</b>	T <sub>OP</sub> & T <sub>STG</sub>	-65 to +175	°C
<b>Maximum Thermal Resistance</b> (Junction to Case)	R <sub>θJC</sub>	2.5	°C/W

**Notes:**

- 1/ For ordering information, Price, Operating Curves, and Availability- Contact Factory.
- 2/ Unless Otherwise Specified, All Maximum Ratings/Electrical Characteristics @ 25°C.
- 3/ Screened to MIL-PRF-19500.

DO-4:





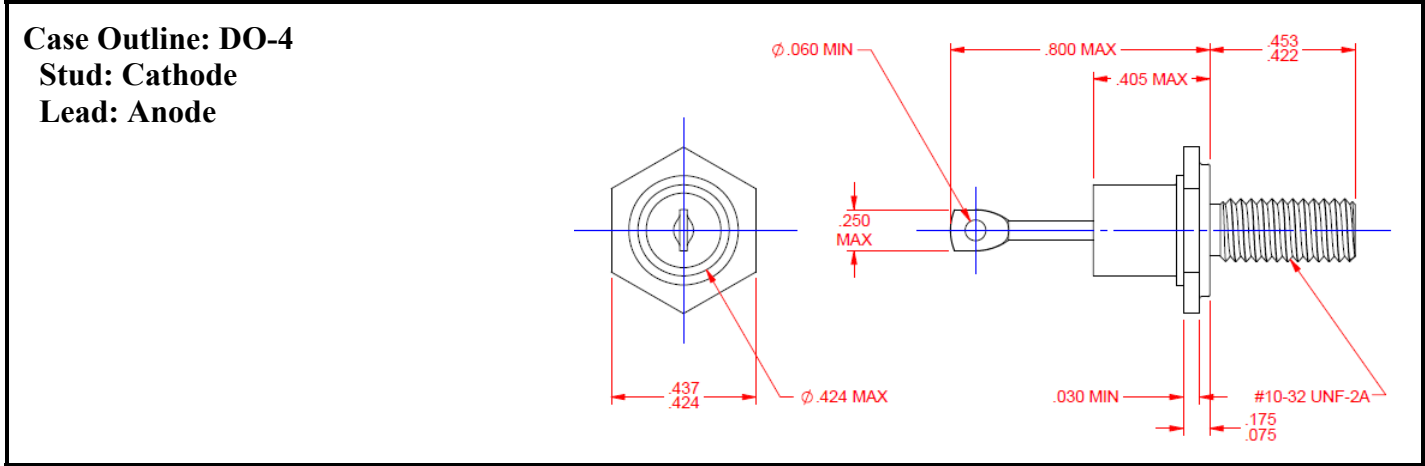
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**SDR600  
 Thru  
 SDR608**

Electrical Characteristics		Symbol	Value	Units
Instantaneous Forward Voltage Drop ( $I_F=15$ Adc, $T_A=25^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)	SDR600-605 SDR606-608	$V_F$	1.3	$V_{DC}$
			1.8	
Instantaneous Forward Voltage Drop ( $I_F=15$ Adc, $T = -55^\circ\text{C}$ , 300 $\mu\text{s}$ Pulse)	SDR600-605 SDR606-608	$V_F$	1.45 1.95	$V_{DC}$
Reverse Leakage Current (Rated $V_R$ , $T_A=25^\circ\text{C}$ , 300 $\mu\text{s}$ minimum pulse)		$I_R$	50	$\mu\text{A}$
Reverse Leakage Current (Rated $V_R$ , $T_A=100^\circ\text{C}$ , 300 $\mu\text{s}$ minimum pulse)		$I_R$	10	$\text{mA}$
Junction Capacitance ( $V_R=10 V_{DC}$ , $T_A=25^\circ\text{C}$ , $f=1$ MHz)		$C_J$	150	$\text{pF}$
Reverse Recovery Time ( $I_F=500$ mA, $I_R=1$ A, $I_{RR}=250$ mA, $T_A=25^\circ\text{C}$ )	SDR600-605 SDR606 SDR607-608	$t_{RR}$	45	nsec
			50	
			60	

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 3/ Unless otherwise specified, all Maximum Ratings/Electrical Characteristics @  $25^\circ\text{C}$ .



**TYPICAL OPERATING CURVES**  
 $T_A=25^\circ\text{C}$  Unless otherwise specified

