



**Solid State Devices, Inc.**

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**SDA253F Series**

**50A /  
 400 – 800V  
 THREE PHASE BRIDGE  
 RECTIFIER ASSEMBLY**

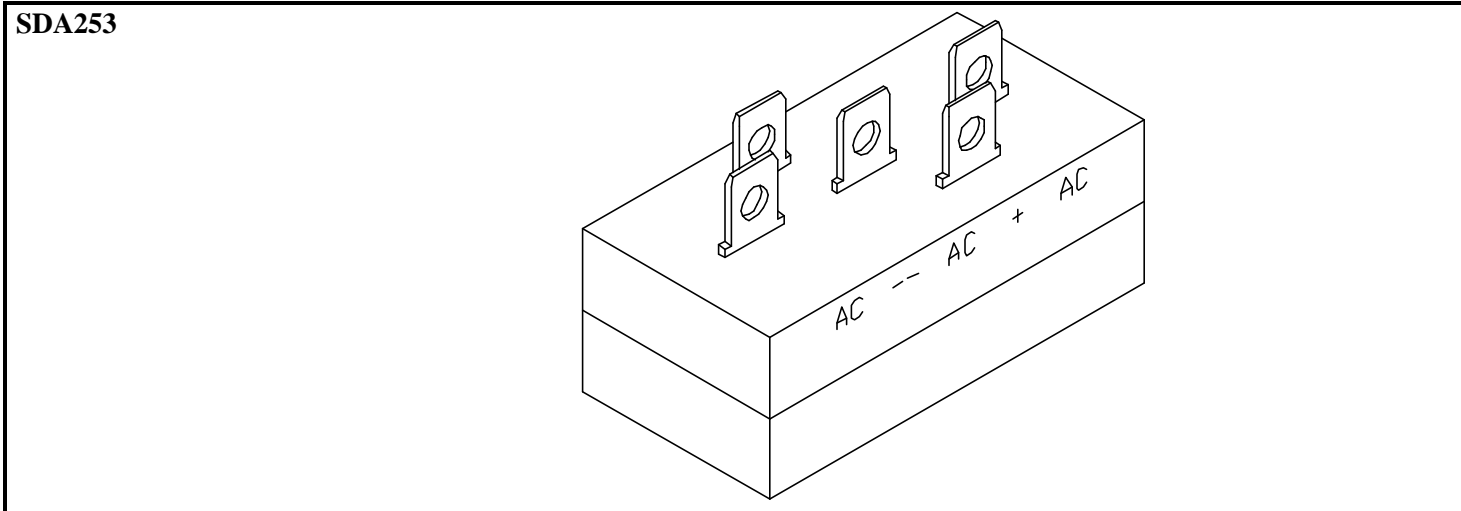
**DESIGNER'S DATA SHEET**

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

SDA253 **D** **F** **—**  
 ç ç ë **Finish:** — = Chem Filmed Base  
 ç ç N = Ni Plated Base  
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 ç ë **Speed:** F = Fast (250 nsec max)  
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 ë **Voltage:** D = 600 V  
 E = 800 V  
 F = 1000 V

- Features:**
- PIV: 400 – 600 Volts.
  - Higher Blocking Voltage Available. Contact Factory.
  - Average Output Current 25 Amps
  - Low Reverse Leakage Current
  - Constructed with Void-free, Hermetically Sealed Discretes
  - Aluminum Base for Maximum Thermal Conductivity
  - Small Package Size (2.00 x 1.00 x 0.750")
  - TX and TXV & S Level Screening Available
  - Ultra Fast Versions Available. Contact Factory.

Maximum Ratings		Symbol	Value	Units
Peak Repetitive and Peak Surge Reverse Voltage	SDA253DF SDA253EF SDA253FF	$V_{RRM}$ $V_{RSM}$ $V_R$	400 600 800	Volts
Average Rectified Forward Current <sup>3/</sup> (Resistive Load, 60 Hz Sine Wave)	$T_C = 55^\circ C$	$I_o$	50	Amps
Peak Surge Current (8.3 ms Pulse, Half Sine Wave, $T_A = 25^\circ C$ , per leg)		$I_{FSM}$	300	Amps
Operating & Storage Temperature		$T_{op}$ & $T_{stg}$	-65 to +150	$^\circ C$
Maximum Junction Temperature		$T_J$	-65 to +175	$^\circ C$
Maximum Thermal Resistance, Junction to Case		$R_{qJC}$	2.5	$^\circ C/W$



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

**DATA SHEET #: RA0049A**

**DOC**



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Electrical Characteristic <sup>4/</sup>		Symbol	Min	Typ	Max	Units
<b>Peak Reverse Voltage</b> ( $I_R = 100\mu A$ )	SDA253DF	<b><math>BV_R</math></b>	420	—	—	<b>Volts</b>
	SDA253EF		620	—	—	
	SDA253FF		820	—	—	
<b>Instantaneous Forward Voltage Drop</b> ( $I_F = 18A$ , pulsed)		<b><math>V_{F1}</math></b>	—	—	1.25	<b>Volts</b>
<b>Reverse Leakage Current</b> (Rated $V_R$ , pulsed)	$T_A = 25^\circ C$	<b><math>I_{R1}</math></b>	—	—	10	<b><math>\mu A</math></b>
	$T_A = 100^\circ C$	<b><math>I_{R2}</math></b>	—	—	150	
<b>Reverse Recovery Time</b> ( $I_F = 500$ mA, $I_R = 1$ A, $I_{RR} = 250$ mA)		<b>trr</b>	—	—	250	<b>ns</b>
<b>Capacitance</b> ( $V_R = 10V$ , $f = 1MHz$ )		<b>C</b>	—	—	120	<b>pF</b>
<b>Insulation Resistance</b> ( $V = 1500V$ )		<b><math>R_{ISO}</math></b>	10	—	—	<b>MW</b>

<p><b>NOTES:</b></p> <p><u>1/</u> For Ordering Information, Price, and Availability Contact Factory.</p> <p><u>2/</u> For Package Outlines Contact Factory.</p> <p><u>3/</u> Derate Linearly at 0.416 A/°C for <math>T_C &gt; 55^\circ C</math>.</p> <p><u>4/</u> Unless Otherwise Specified, All Electrical Characteristics @25°C.</p>	<p><b>AVAILABLE PART NUMBERS: <sup>1/</sup></b></p> <p>SDA253DF          SDA253EF          SDA253FF</p>
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