



# SF51 thru SF59

Glass Passivated Super Fast Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 5.0 Amperes

## Features

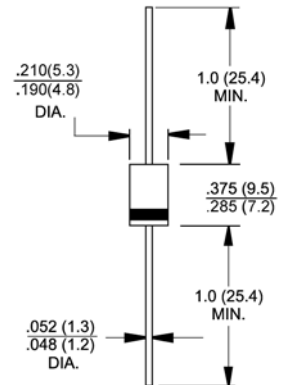
- ◆ Glass passivated chip
- ◆ Super fast switching time for high efficiency
- ◆ Low forward voltage drop and high current capability
- ◆ Low reverse leakage current
- ◆ Plastic material has UL flammability classification 94V-0



DO-201AD

## Mechanical Data

- ◆ Case: JEDEC DO-201AD molded plastic
- ◆ Polarity: Color band denotes cathode
- ◆ Weight: 0.042 ounce, 1.195 grams
- ◆ Mounting position: Any



## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Parameter	Symbols	SF51	SF52	SF53	SF54	SF55	SF56	SF57	SF58	SF59	Units		
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	800	1000	Volts		
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	560	700	Volts		
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	800	1000	Volts		
Maximum average forward rectified current @ $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0									Amps		
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150.0									Amps		
Maximum forward Voltage at 5.0A DC	$V_F$	0.95			1.25		1.3	1.7			Volts		
Maximum DC reverse current at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=100^\circ\text{C}$	$I_R$					5.0 300						$\mu\text{A}$ $\mu\text{A}$	
Maximum reverse recovery time (Note 1)	$t_{rr}$					35						nS	
Typical junction capacitance (Note 2)	$C_J$	80					60					pF	
Typical thermal resistance (Note 3)	$R_{\theta JA}$					13							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$					-55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$					-55 to +150							$^\circ\text{C}$

- Notes:**
1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal Resistance Junction to Ambient.

## RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

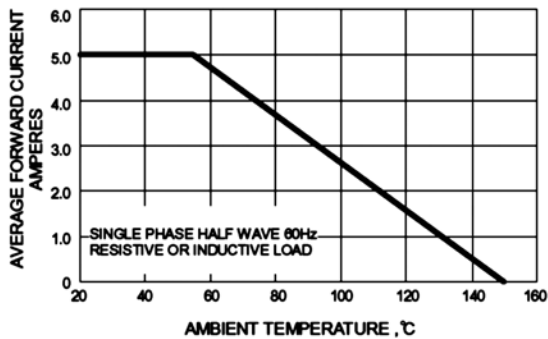


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

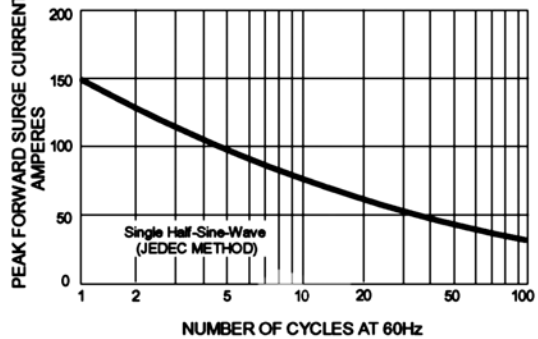


FIG.3 - TYPICAL JUNCTION CAPACITANCE

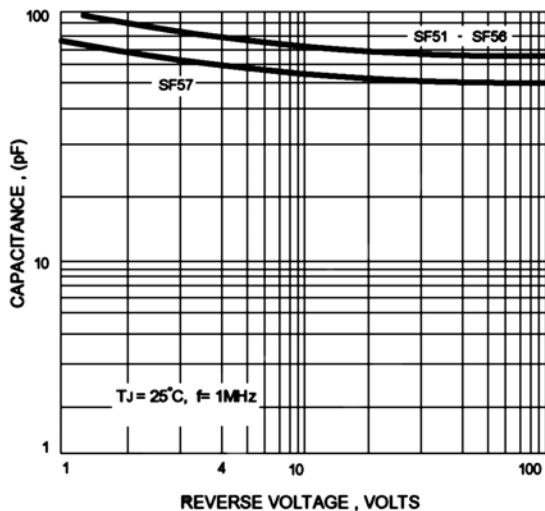


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

