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# SF31 THRU SF38

## Features

- High Surge Capability
- Low Forward Voltage Drop
- High Current Capability
- High Reliability

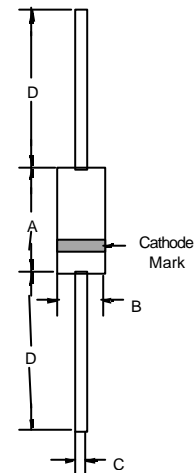
## 3.0 Amp Super Fast Rectifier 50 to 600 Volts

## Maximum Ratings

- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- For capacitive load, derate current by 20%

Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
SF31	50V	35V	50V
SF32	100V	70V	100V
SF33	150V	105V	150V
SF34	200V	140V	200V
SF35	300V	210V	300V
SF36	400V	280V	400V
SF38	600V	420V	600V

## DO-201AD



## Electrical Characteristics @ 25°C Unless Otherwise Specified

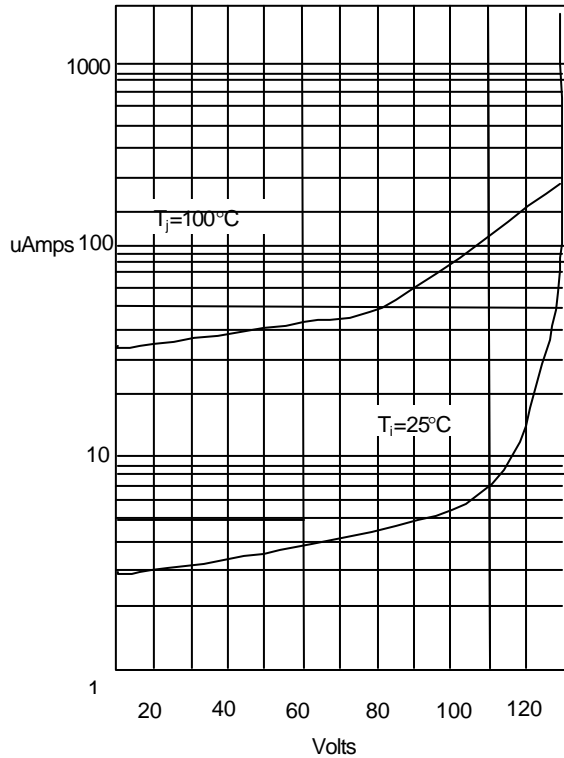
Average Forward Current	$I_{F(AV)}$	3.0 A	$T_C = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	100A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	$V_F$	SF31-SF34 SF35-SF36 SF38	$I_{FM} = 3.0\text{A};$ $T_C = 25^\circ\text{C}$
		.95V	
		1.3V 1.7V	
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0 $\mu\text{A}$ 100 $\mu\text{A}$	$T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$
Typical Junction Capacitance	$C_J$	SF31-SF34 SF35-SF38	Measured at 1.0MHz, $V_R=4.0\text{V}$
		100pF 80pF	
Maximum Reverse Recovery Time	$T_{rr}$	35ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_T=0.25\text{A}$

\*Pulse Test: Pulse Width 300 $\mu\text{sec}$ , Duty Cycle 1%

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	---	.370	---	9.50	
B	---	.250	---	6.40	
C	.048	.052	1.20	1.30	
D	1.000	---	25.40	---	

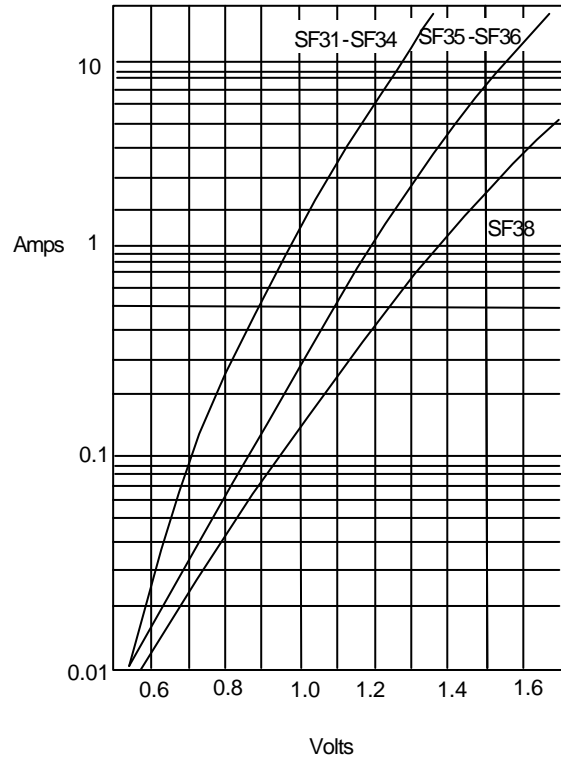
# SF31 thru SF38

Figure 1  
Typical Reverse Characteristics



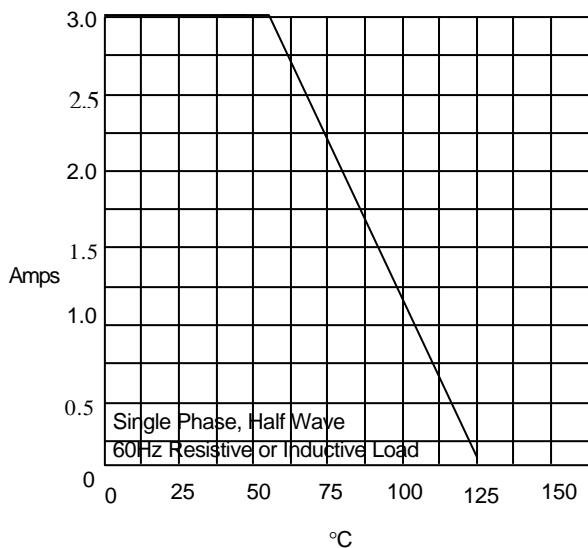
Instantaneous Reverse Current - uAmperes versus  
Percent of Rated Peak Reverse Voltage - %

Figure 2  
Typical Forward Characteristics



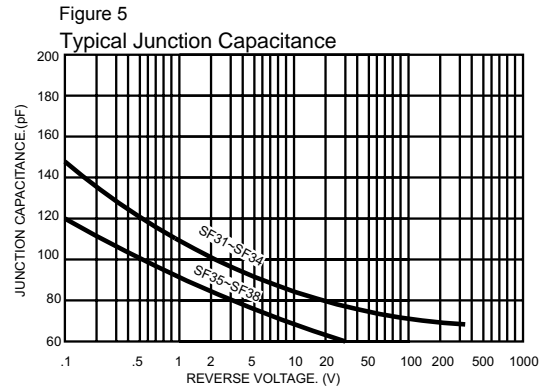
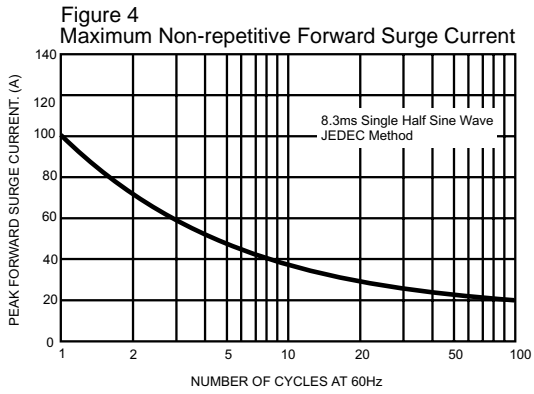
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 3  
Forward Derating Curve

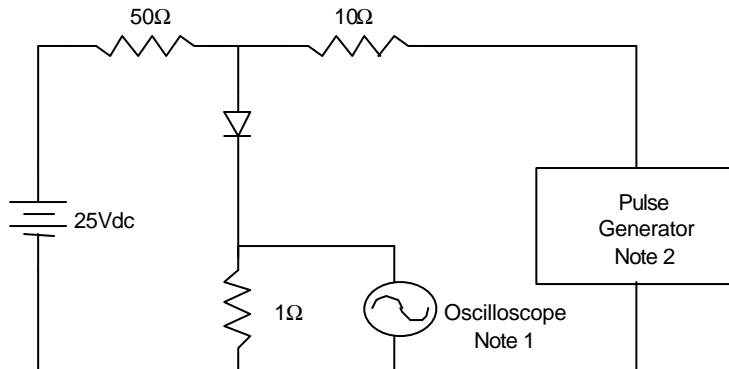


Average Forward Rectified Current Per Leg - Amperes versus  
Case Temperature -  $^\circ\text{C}$

# SF31 thru SF38



**Figure 6**  
Reverse Recovery Time Characteristic And Test Circuit Diagram



**Notes:**

1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.  
Source impedance = 50 ohms
3. Resistors are non-inductive

