

# SF31 THRU SF38

### 3.0 AMP. Super Fast Rectifiers

DIA. 0. 220 (5.6)

DIA. 0.052 (1.3)

0.043 (1.1)

Dimensions in inches and (millimeters)

**DO-201AD** 

0.96 (24.5)

MTN

0.96(24.5)

MIN.

 $\frac{0.375(9.5)}{0.335(8.5)}$ 

#### Features

- Low forward voltage drop
- · High current capability
- · High reliability
- High surge current capability
- Plastic material-UL flammability 94V-0

#### **Mechanical Data**

- Case: Molded plastic DO-201AD
- Terminals: Plated leads solderable per MIL-STD-202,Method 208 guaranteed
- · Polarity: Color band dentes cathode end
- Mounting Position: Any
- Making: Type Number
- · Lead Free: For RoHS/Lead Free Version

## **Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified

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

For capacitive load derate current by 20%

Type Number	SYMBOL	SF31	SF32	SF33	SF34	SF35	SF36	SF38	Unit
Maximum Recurrent Peak Reverse Voltage	Vrrm	50	100	150	200	300	400	600	V
Maximum RMS Voltage	Vrms	35	70	104	140	210	280	420	V
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current.375"(9.5mm) lead length @T∟=100℃	IF(AV)	3.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	Ifsm	125							А
I <sup>2</sup> t Rating for Fusing (t < 8.3ms)	l <sup>2</sup> t	64.84							A <sup>2</sup> s
Forward Voltage @IF=3.0A	Vfm	0.95 1.25 1.					1.7	V	
Peak Reverse Current @T <sub>A</sub> =25°C	5.0								uA
At Rated DC Blocking Voltage @T <sub>A</sub> =125°C	IR 100								
Typical Junction Capacitance (Note 1)	С	70					45		
Typical Thermal Resistance Junction to Ambient(Note 2)	Reja	20							°C/W
Maximum Reverse Recovery Time(Note 3)	Trr	35							ns
Operating Temperature Range	TJ	-55 to +125							°C
/Storage Temperature Range	Тѕтс	-55 to +150							°C

Note:1. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C

2. Leads maintained at ambient temperature at a distance of 9.5mm from the case

3.Reverse Recovery Test Conditions: IF=0.5A, IR=1A, Irr=0.25A



PEAK FORWARD SURGE CURRENT (A)

200

150

100

50

0

1

PULSE WIDTH 8.3ms SINGLE HALF-SINE-WAVE

2

(JEDEC METHOD)

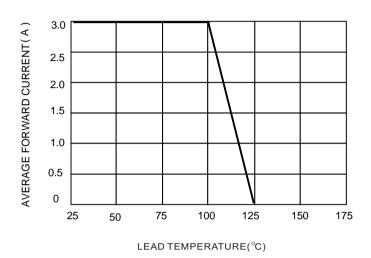
5

10

NUMBER OF CYCLES AT 60Hz

20

#### FIG. 1 – FORWARD CURRENT DERATING CURVE



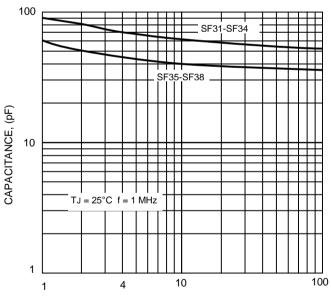
INSTANTANEOUS FORWARD CURRENT, (A) 50 10 ର୍ଜ Ś 3.0 ć - <sup>2</sup>2 1.0 T\_a=2.5℃ ulse Width 300us 1% Duty Cycle 0.1 .01 4 .6 .8 1.0 1.2 1.4 1.6 1.8

FIG.2-TYPICAL FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD VOLTAGE (V)







REVERSE VOLTAGE, (V)

100

50



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