

## SF31G THRU SF38G

REVERSE VOLTAGE: 50 to 800 VOLTS  
FORWARD CURRENT: 3.0 AMPERE

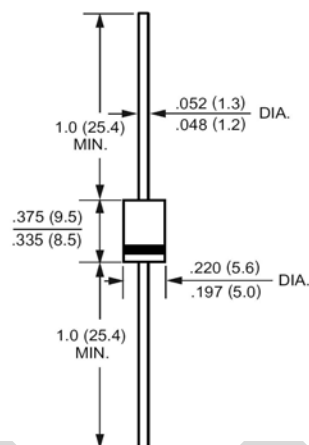
### FEATURES

- Low forward voltage drop
- Low leakage
- High current capability
- Super fast switching speed
- High forward surge capability
- High reliability.

### MECHANICAL DATA

Case: Molded plastic, DO-201AD  
Epoxy: UL 94V-O rate flame retardant  
Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed  
Polarity: Color band denotes cathode end  
Mounting position: Any  
Weight: 0.04ounce, 1.1gram

#### DO-201AD



Dimensions in inches and (millimeters)

### 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%.

	Symbols	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF38G	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at T <sub>A</sub> =55°C	I <sub>(AV)</sub>	3.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	125							Amp
Maximum Forward Voltage at 3.0A DC and 25°C	V <sub>F</sub>	0.95				1.25		1.7	Volts
Maximum Reverse Current at T <sub>A</sub> =25°C at Rated DC Blocking Voltage T <sub>A</sub> =100°C	I <sub>R</sub>	5.0 500							uAmp
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	100				80			pF
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	20							°C/W
Maximum Reverse Recovery Time (Note 3)	T <sub>RR</sub>	35							nS
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125							°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150							°C

#### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance from Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted.
- 3- Reverse Recovery Test Conditions:  $I_F=.5A$ ,  $I_R=1A$ ,  $I_{RR}=.25A$ .

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FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

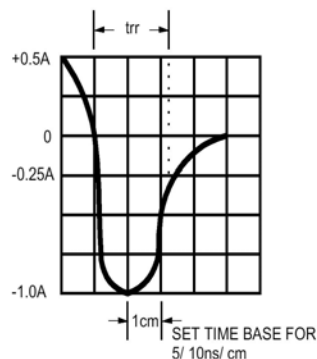
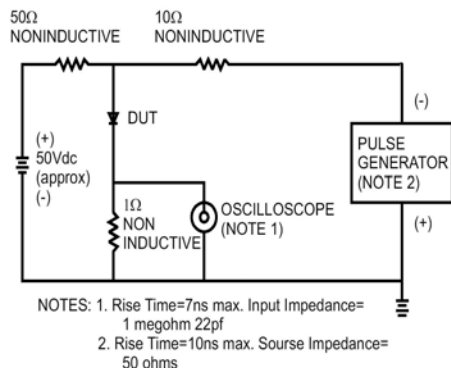


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

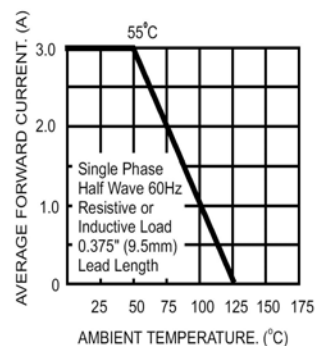


FIG.3- TYPICAL REVERSE CHARACTERISTICS

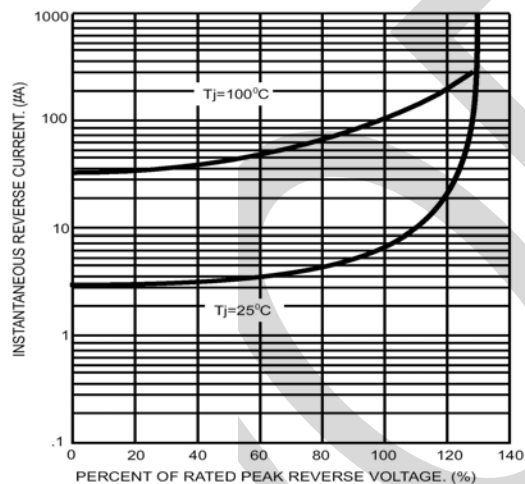


FIG.4- TYPICAL FORWARD CHARACTERISTICS

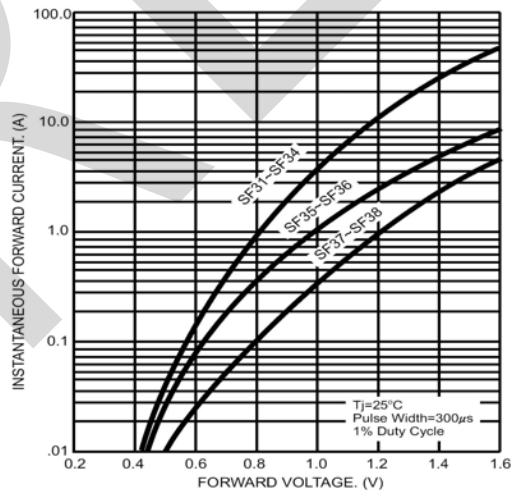


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

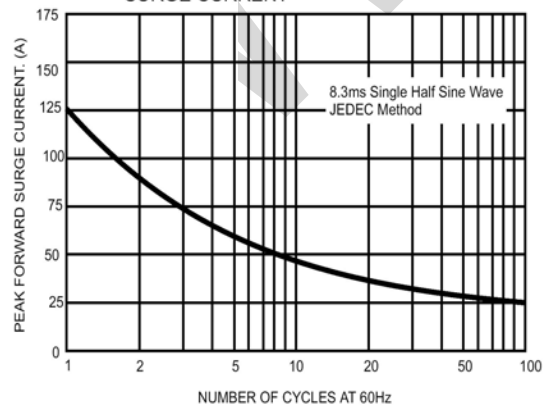


FIG.6- TYPICAL JUNCTION CAPACITANCE

