

# SF31G - SF38G

## 3.0 AMPS. Glass Passivated Super Fast Rectifiers

### DO-201AD

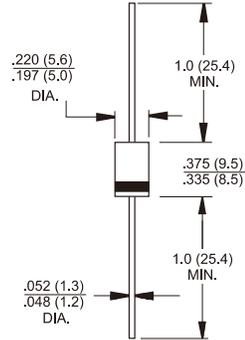


### Features

- ✦ High efficiency, low VF
- ✦ High current capability
- ✦ High reliability
- ✦ High surge current capability
- ✦ Low power loss.
- ✦ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application
- ✦ Green compound with suffix "G" on packing code & prefix "G" on datecode.

### Mechanical Data

- ✦ Case: Molded plastic
- ✦ Epoxy: UL 94V-0 rate flame retardant
- ✦ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✦ Polarity: Color band denotes cathode
- ✦ High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✦ Mounting position: Any
- ✦ Weight: 1.2 grams



Dimensions in inches and (millimeters)



Marking Diagram

- SF3XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

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

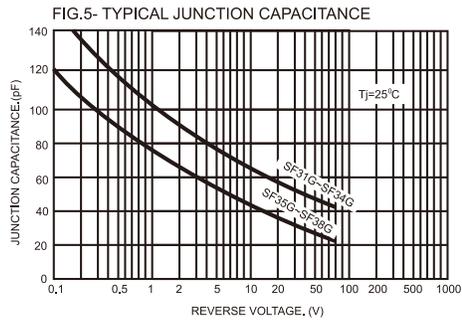
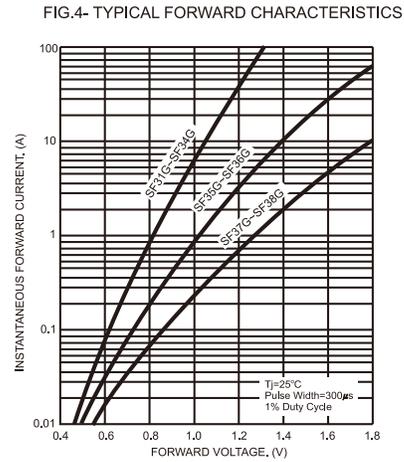
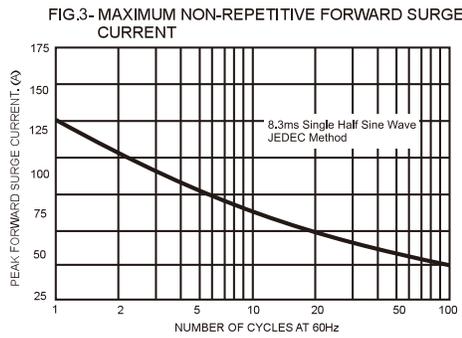
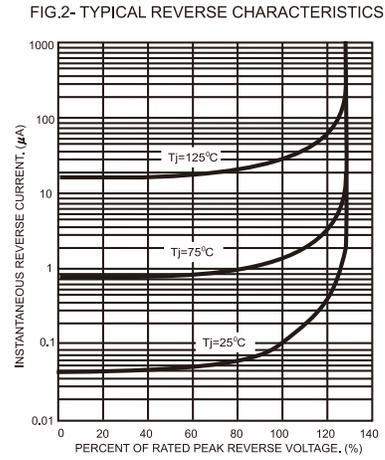
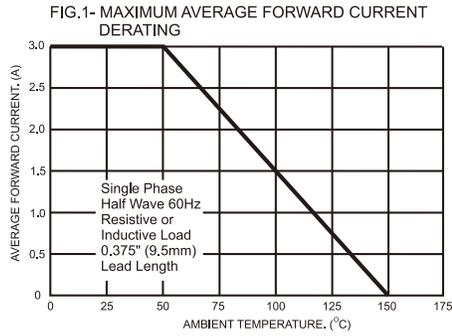
For capacitive load, derate current by 20%

Type Number	Symbol	SF 31G	SF 32G	SF 33G	SF 34G	SF 35G	SF 36G	SF 37G	SF 38G	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ T <sub>A</sub> = 55 °C	I <sub>F(AV)</sub>	3.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	125								A
Maximum Instantaneous Forward Voltage @ 3.0A	V <sub>F</sub>	0.95			1.3		1.7			V
Maximum DC Reverse Current at @ T <sub>A</sub> =25 °C	I <sub>R</sub>	5.0								uA
Rated DC Blocking Voltage (Note 1) @ T <sub>A</sub> =125 °C		100								uA
Maximum Reverse Recovery Time (Note 2)	T <sub>rr</sub>	35								nS
Typical Junction Capacitance (Note 3)	C <sub>j</sub>	80				60				pF
Typical Thermal Resistance (Note 4 )	R <sub>θJA</sub> R <sub>θJL</sub> R <sub>θJC</sub>					35 10 9				°C/W
Operating Temperature Range T <sub>J</sub>	T <sub>J</sub>	-65 to +150								°C
Storage Temperature Range T <sub>STG</sub>	T <sub>STG</sub>	-65 to +150								°C

- Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle  
 2. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A  
 3. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.  
 4. Mount on Cu-Pad Size 16mm x 16mm on PCB.

Version: C10

**RATINGS AND CHARACTERISTIC CURVES (SF31G THRU SF38G)**



**FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

