

# SF61 - SF65

## 6.0 AMPS. Super Fast Rectifiers

### DO-201AD

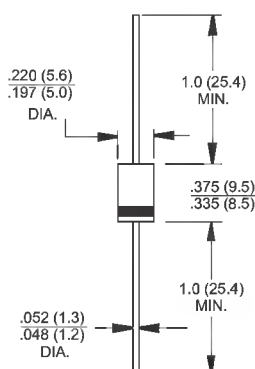


### Features

- ✦ 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

- ✦ Cases: 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
- ✦ Weight: 1.2 grams



Dimensions in inches and (millimeters)

#### Marking Diagram



- SF6X = 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 61	SF 62	SF 63	SF 64	SF 65	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ T <sub>A</sub> = 55 °C	I(AV)	6.0					A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	150					A
Maximum Instantaneous Forward Voltage @ 6.0A	V <sub>F</sub>	0.975		1.3			V
Maximum DC Reverse Current @ T <sub>A</sub> =25 °C at Rated DC Blocking Voltage @ T <sub>A</sub> =100 °C	I <sub>R</sub>	5.0			100		uA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	35					nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	120			70		pF
Typical Thermal resistance	R <sub>θJA</sub>	30					°C/W
Operating Temperature Range	T <sub>J</sub>	-65 to +125					°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150					°C

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

### RATINGS AND CHARACTERISTIC CURVES (SF61 THRU SF65)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

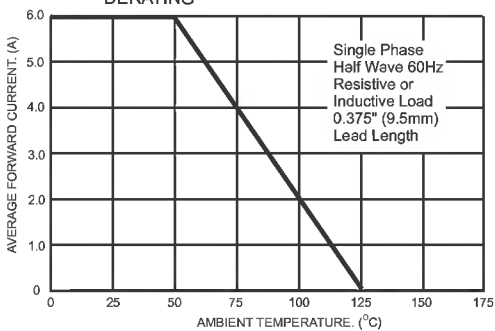


FIG.2- TYPICAL REVERSE CHARACTERISTICS

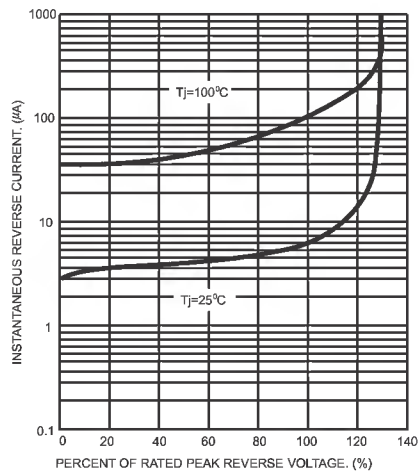


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

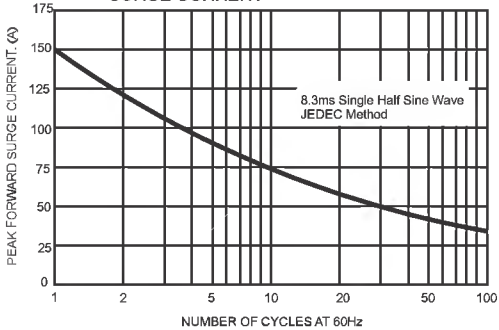


FIG.5- TYPICAL FORWARD CHARACTERISTICS

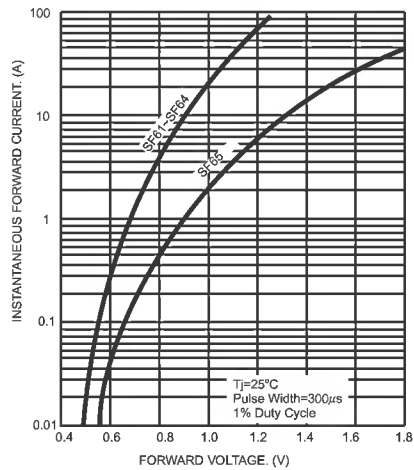


FIG.4- TYPICAL JUNCTION CAPACITANCE

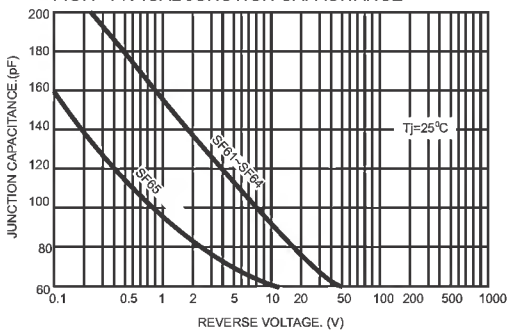
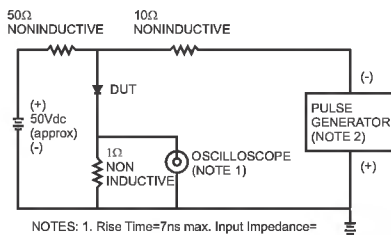


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance= 50 ohms

