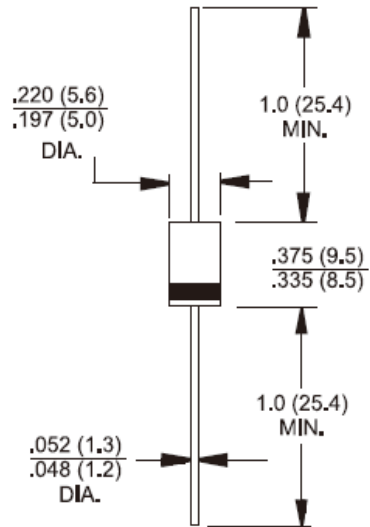


**DO-201AD**

**Dimensions in inches and (millimeters)**
**Marking Diagram**


SF4XG = Specific Device Code  
 G = Green Compound  
 Y = Year  
 WW = Work Week

**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

**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 41G	SF 42G	SF 43G	SF 44G	SF 45G	SF 46G	SF 47G	SF 48G	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	4								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	125								A
Maximum Instantaneous Forward Voltage (Note 1) @ 4 A	$V_F$	1.0			1.3		1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$	$I_R$	5								uA
@ $T_A = 125^\circ\text{C}$		500								
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	35								nS
Typical Junction Capacitance (Note 3)	$C_j$	100				80				pF
Thermal Resistance (Note 4)	$R_{\theta JA}$	25								°C/W
Operating Temperature Range	$T_J$	- 65 to + 150								°C
Storage Temperature Range	$T_{STG}$	- 65 to + 150								°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

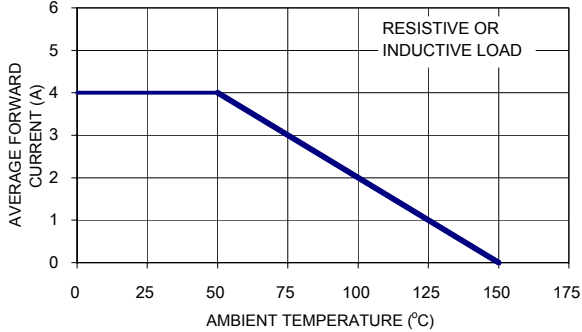
Note 2: Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

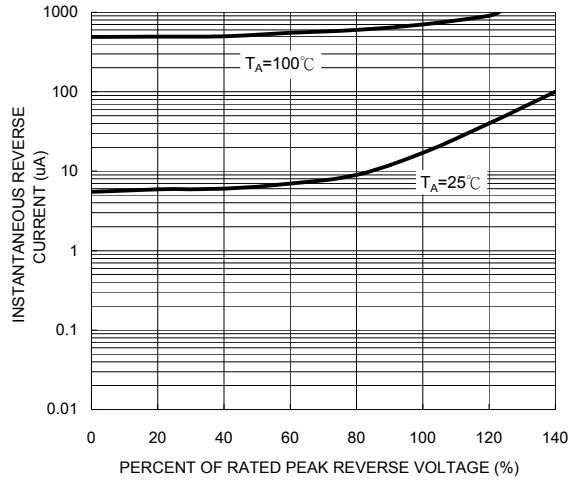
Note 4: Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

**RATINGS AND CHARACTERISTIC CURVES (SF41G THRU SF48G)**

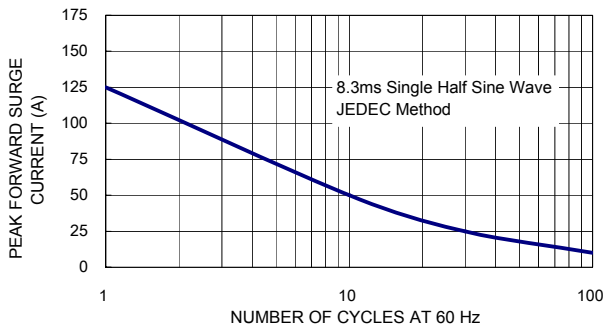
**FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING**



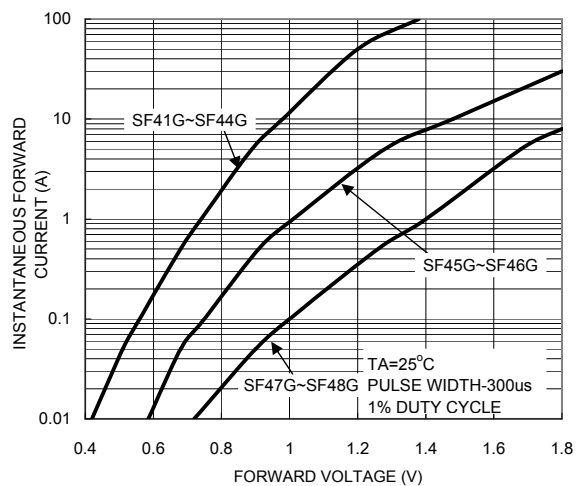
**FIG. 2- TYPICAL REVERSE CHARACTERISTICS**



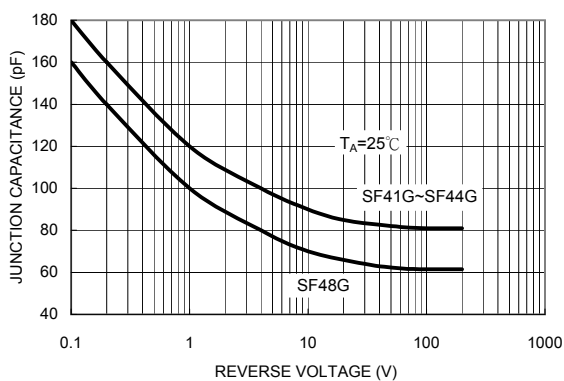
**FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 5- TYPICAL FORWARD CHARACTERISTICS**



**FIG. 4- TYPICAL JUNCTION CAPACITANCE**



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

