

CURRENT 4.0 Ampere  
 VOLTAGE RANG 50 to 600 Volts

SF41 THRU SF48

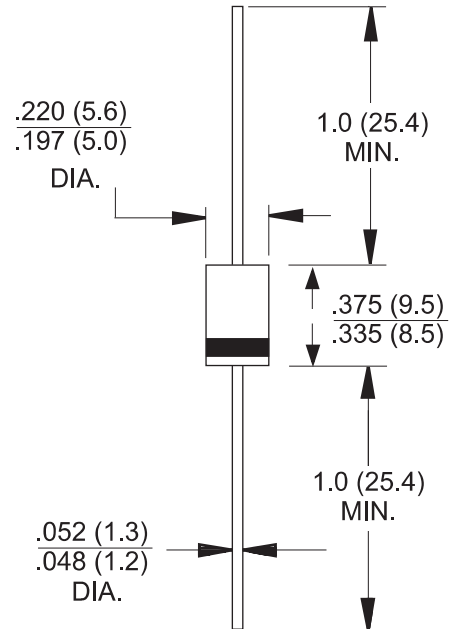
DO-27 / DO-201AD

Features

- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application

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)

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 41	SF 42	SF 43	SF 44	SF 45	SF 46	SF 47	SF 48	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	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>(AV)</sub>	4.0								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 @ 4.0A	V <sub>F</sub>	1.0			1.3		1.7			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		500		uA uA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	35								nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	100				80				pF
Thermal Resistance	R <sub>θJA</sub>	25								°C/W
Operating Temperature Range	T <sub>J</sub>	-65 to +150								°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 P.C.B

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**RATING AND CHARACTERISTIC CURVES SF41 Thru SF48**

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

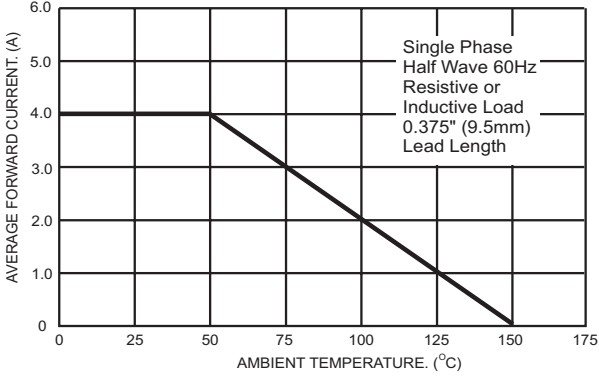


FIG.2- TYPICAL REVERSE CHARACTERISTICS

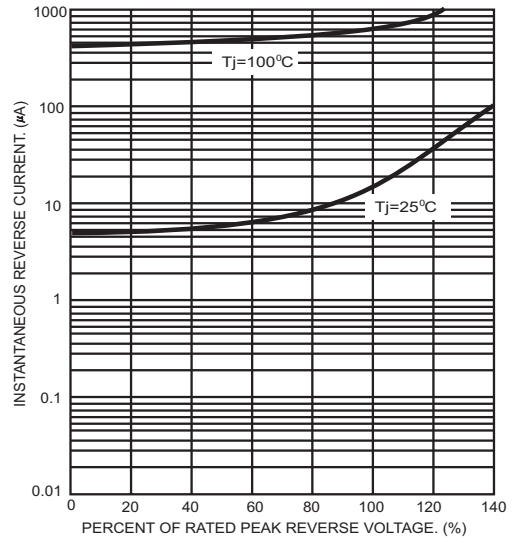


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

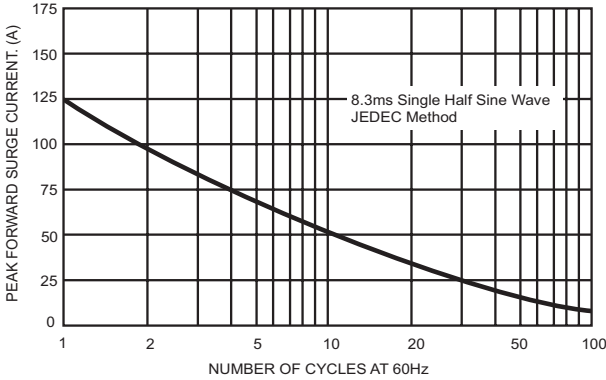


FIG.5- TYPICAL FORWARD CHARACTERISTICS

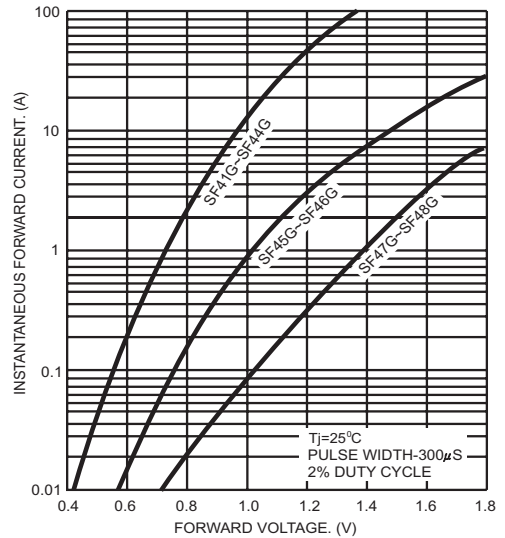


FIG.4- TYPICAL JUNCTION CAPACITANCE

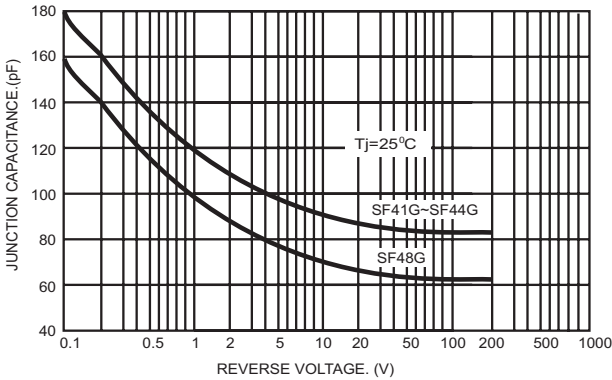


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

