SF31G THRU SF38G

3.0 AMPS. Ultra Fast Recovery Rectifiers



Voltage Range
50 to 600 Volts
Current
3.0 Amperes

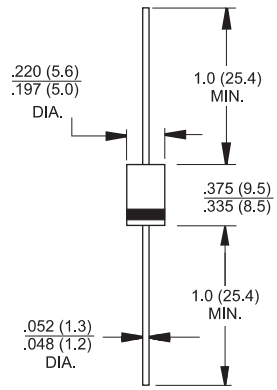
Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-O rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375",(9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.1 grams

DO-201AD



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

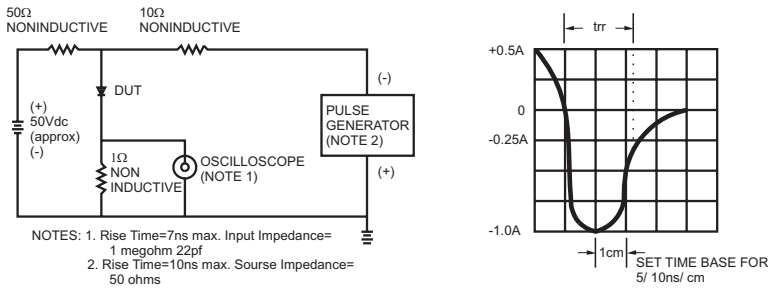
Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

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	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℃	$I_{(AV)}$	3.0								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 @ 3.0A	V_F	0.95				1.3		1.7		V
Maximum DC Reverse Current @ T_A=25℃ at Rated DC Blocking Voltage @ T_A=125℃	I_R	5.0 100								uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	35								nS
Typical Junction Capacitance (Note 2)	Cj	80				60				pF
Typical Thermal Resistance (Note 3)	$R\theta_{JA}$ $R\theta_{JL}$	35 10								℃/W
Operating Temperature Range	T_J	-65 to +150								℃
Storage Temperature Range	T_{STG}	-65 to +150								℃

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=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 (SF31G THRU SF38G)

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



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

FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

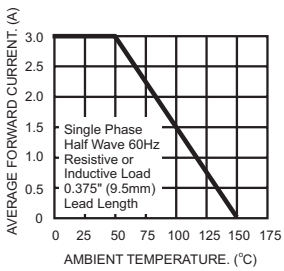


FIG.3- TYPICAL REVERSE CHARACTERISTICS

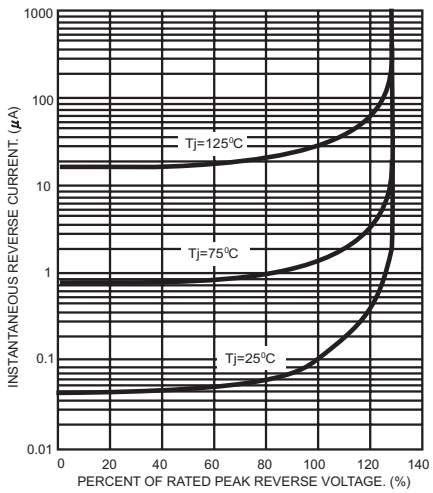


FIG.4- TYPICAL FORWARD CHARACTERISTICS

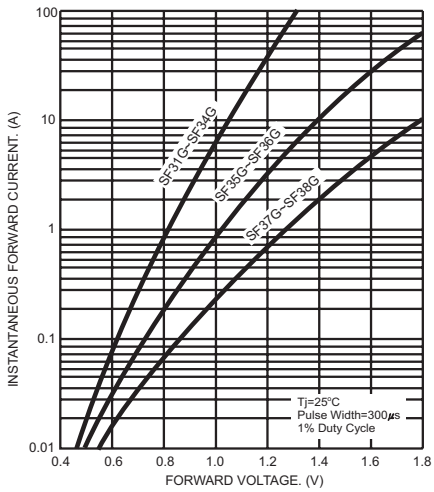


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

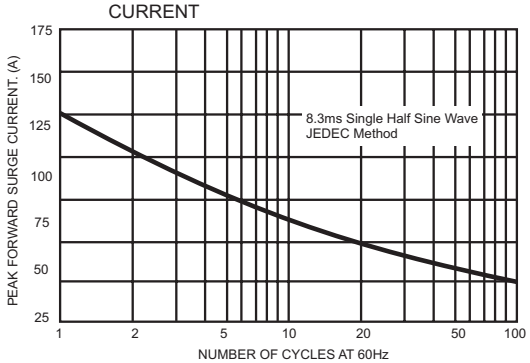


FIG.6- TYPICAL JUNCTION CAPACITANCE

