



SF31 THRU SF38

3.0 AMPS. Super Fast Rectifiers



Voltage Range
50 to 600 Volts
Current
3.0 Amperes

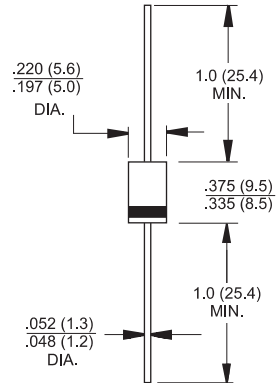
Features

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

Mechanical Data

- ✧ Cases: 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
- ✧ Weight: 1.2 grams

DO-201AD



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 31	SF 32	SF 33	SF 34	SF 35	SF 36	SF 37	SF 38	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°C	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°C at Rated DC Blocking Voltage @ T _A =100°C	I _R	5.0 100								uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35								nS
Typical Junction Capacitance (Note 2)	C _j	80				70				pF
Typical Thermal Resistance (Note 3)	R θ _{JA}	35								°C/W
Operating Temperature Range	T _J	-65 to +125								°C
Storage Temperature Range	T _{STG}	-65 to +150								°C

Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$

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 (SF31 THRU SF38)

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

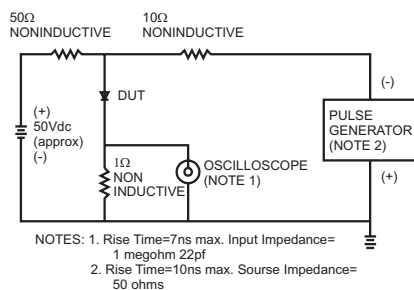


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

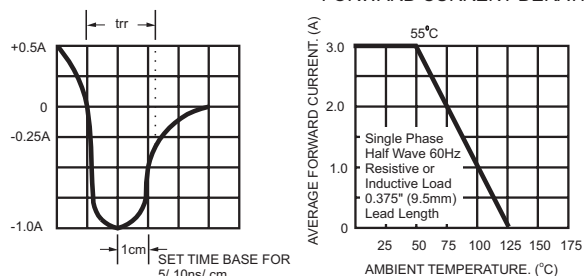


FIG.3- TYPICAL REVERSE CHARACTERISTICS

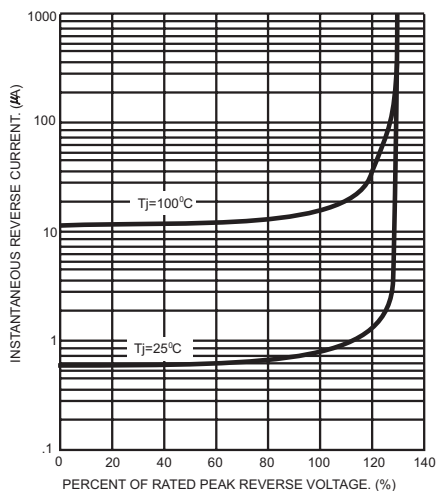


FIG.4- TYPICAL FORWARD CHARACTERISTICS

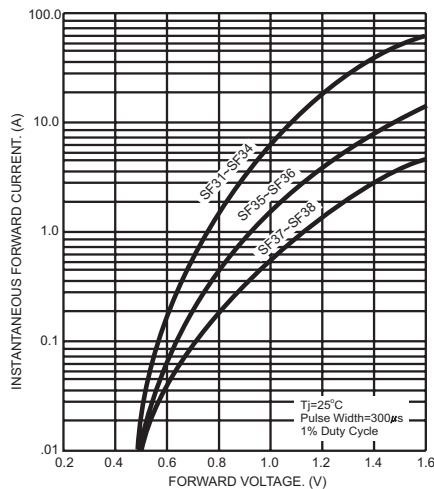


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

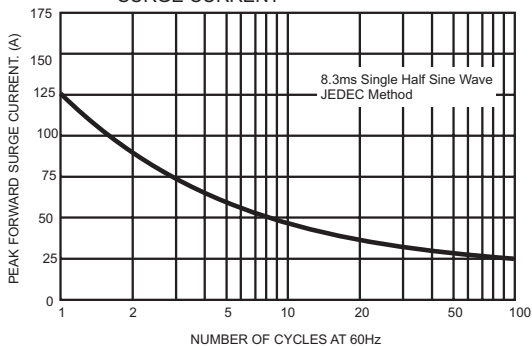


FIG.6- TYPICAL JUNCTION CAPACITANCE

