



SF31 THRU SF38

3.0 AMPS. Super Fast Rectifiers

	Voltage Range 50 to 600 Volts Current 3.0 Amperes
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<p>Features</p> <ul style="list-style-type: none"> ✧ Low forward voltage drop ✧ High current capability ✧ High reliability ✧ High surge current capability <p>Mechanical Data</p> <ul style="list-style-type: none"> ✧ 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 	<p>DO-201AD</p> <p>Dimensions in inches and (millimeters)</p>
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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 @ $T_A = 55^\circ C$	$I_{(AV)}$	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 @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=100^\circ C$	I_R					5.0		100		μA
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)	$R_{\theta JA}$	35								$^{\circ}C/W$
Operating Temperature Range	T_J	-65 to +125								$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 to +150								$^{\circ}C$

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 (SF31 THRU SF38)

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

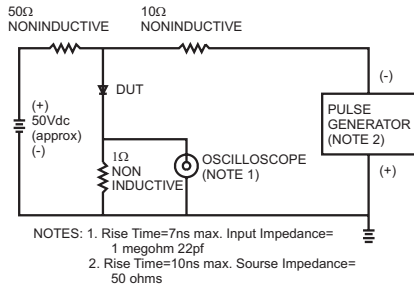


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

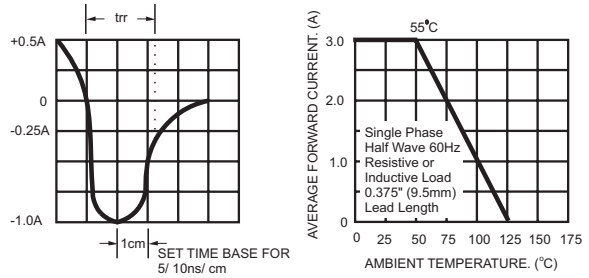


FIG.3- TYPICAL REVERSE CHARACTERISTICS

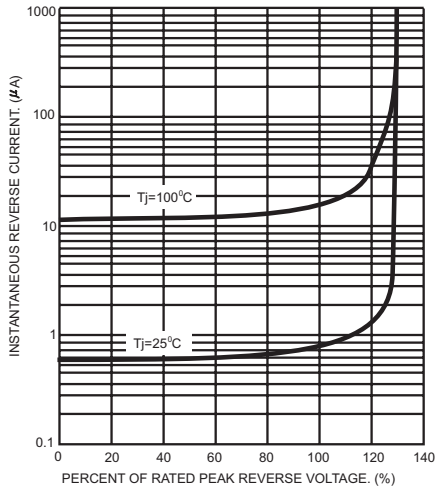


FIG.4- TYPICAL FORWARD CHARACTERISTICS

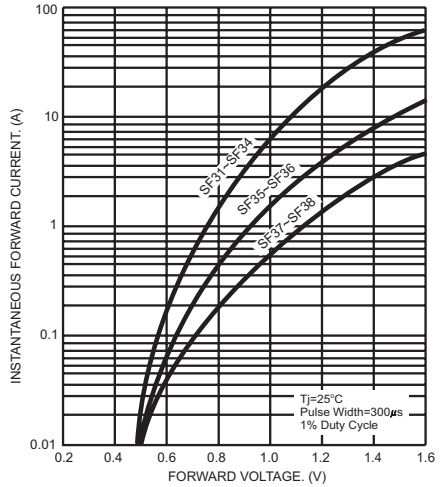


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

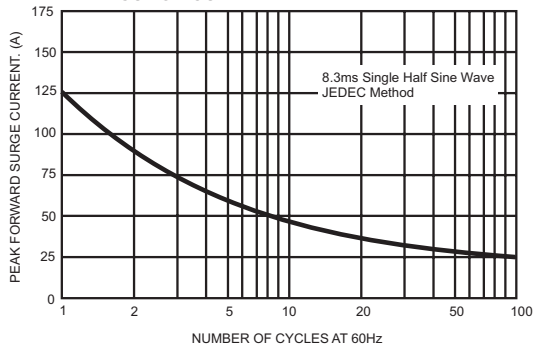


FIG.6- TYPICAL JUNCTION CAPACITANCE

