

3 A Super Fast Rectifiers

SF31 THRU SF38 50 to 600 V 3.0 A

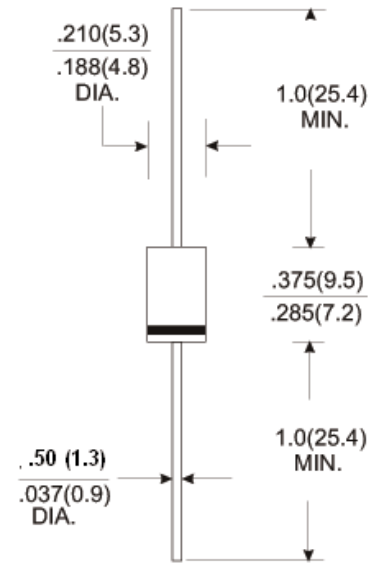
FEATURES

- 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:
250°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	Symbols	SF31	SF32	SF33	SF34	SF35	SF36	SF38	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	Volts	
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	Volts	
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	Volts	
Maximum Average Forward Rectified Current. 375" (9.5mm) Lead Length @ $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	125							Amp	
Maximum Forward Voltage @3.0A	V_F	0.95				1.3		1.7	Volts	
Maximum Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5.0 100							uAmp	
Maximum Reverse Recovery Time (Note 1)	TRR	35							nS	
Typical Junction Capacitance (Note 2)	C_J	100				80				pF
Operating Temperature Range T_J	T_J	-55 to +150							°C	
Storage Temperature Range T_{STG}	T_{STG}	-55 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 Volts D.C.
3. Thermal Resistance Junction To Ambient

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RATINGS AND CHARACTERISTIC CURVES (SF31 THRU SF38)

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

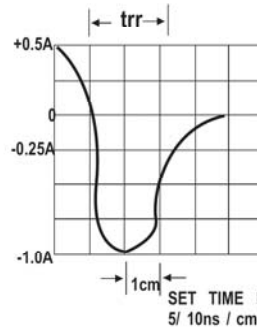
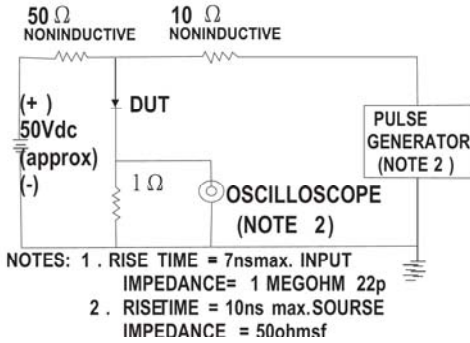


FIG . 2 -MAXIMUM AVERAGE FORWARD CURRENT DERATING

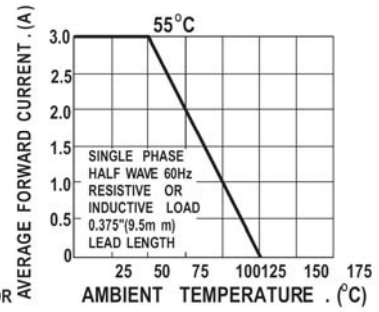


FIG . 3 -TYPICAL REVERSE CHARACTERISTICS

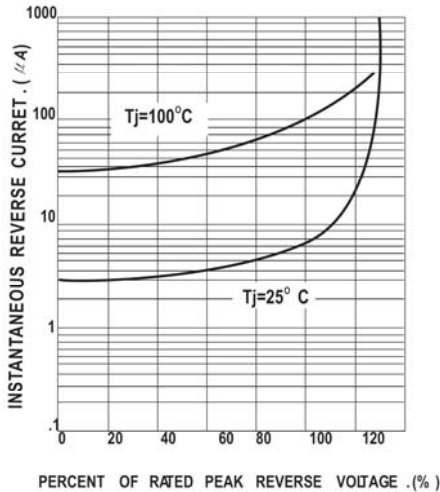


FIG . 4 -TYPICAL REVERSE CHARACTERISTICS

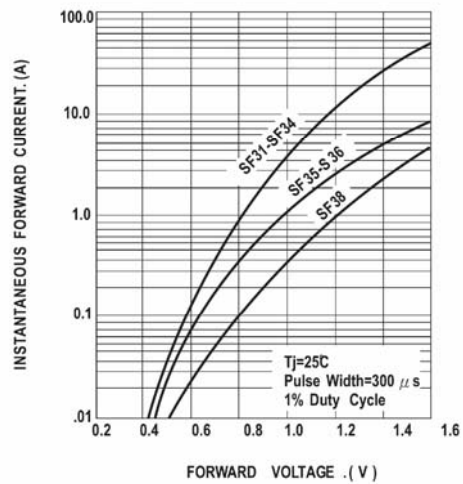


FIG . 5 -MAXIMUM NON- REPETITIVE FORWARD SUREG CURRENT

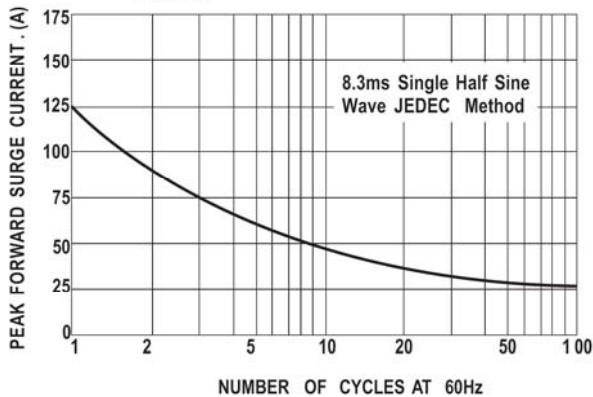


FIG . 6 -TYPICAL JUNCTION CAPACITANCE

