



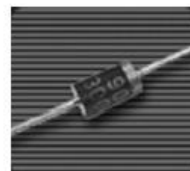
SYNSEMI SEMICONDUCTOR

SF31 thru SF39

3.0 Amps. Glass Passivated Super Fast Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 3.0 Amperes

Features

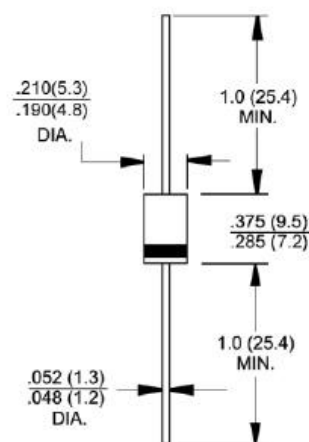
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-201AD

Mechanical Data

- ◆ Case: Molded plastic DO-201AD
- ◆ 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
- ◆ Mounting position: Any
- ◆ Weight: 0.042 ounce, 1.195 grams



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Parameter	Symbols	SF31	SF32	SF33	SF34	SF35	SF36	SF37	SF38	SF39	Units	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	800	1000	Volts	
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	560	700	Volts	
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	800	1000	Volts	
Maximum average forward rectified current .375" (9.5mm) lead length @T _A =55°C	I _(AV)	3.0									Amps	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	125.0									Amps	
Maximum instantaneous forward voltage @ 3.0A DC	V _F	0.95				1.3		1.7			Volts	
Maximum DC reverse current @ T _A =25°C at rated DC blocking voltage @ T _A =125°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	100				80					pF	
Typical thermal resistance	R _{JA} R _{JA}	25 8.0										°C/W
Operating temperature range	T _J	-65 to +150									°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.

SF31 thru SF39

RATINGS AND CHARACTERISTIC CURVES

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

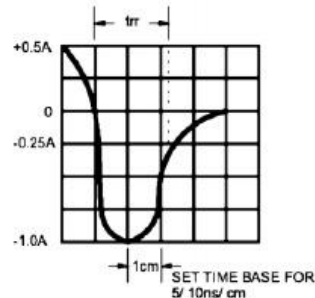
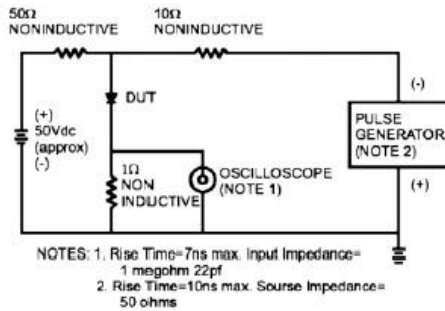


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

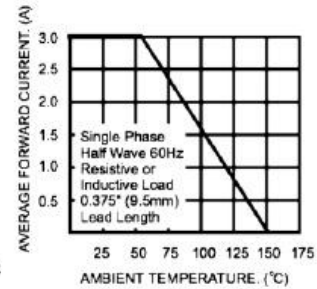


FIG.3- TYPICAL REVERSE CHARACTERISTICS

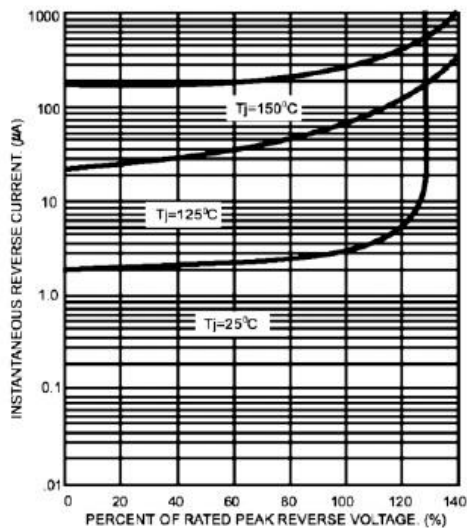


FIG.4- TYPICAL FORWARD CHARACTERISTICS

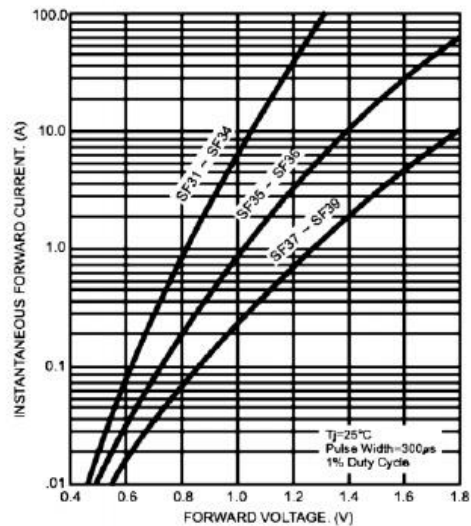


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

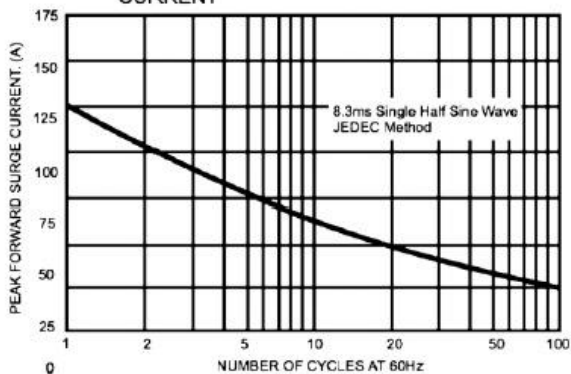


FIG.6- TYPICAL JUNCTION CAPACITANCE

