



SF31 thru SF39

Glass Passivated Super Fast Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

Features

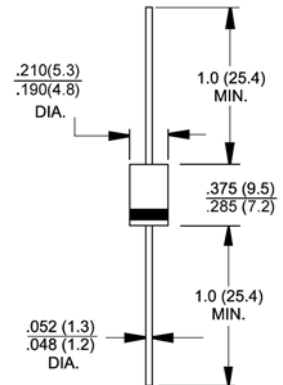
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



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



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 @ $T_A=55^\circ\text{C}$	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 @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	5.0				100				μA μA			
Maximum reverse recovery time (Note 1)	t_{rr}	35										nS	
Typical junction capacitance (Note 2)	C_J	100				80							pF
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JL}$					25 8.0							$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55 to +150										$^\circ\text{C}$	
Storage temperature range	T_{STG}	-55 to +150										$^\circ\text{C}$	

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.

RATINGS AND CHARACTERISTIC CURVES

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

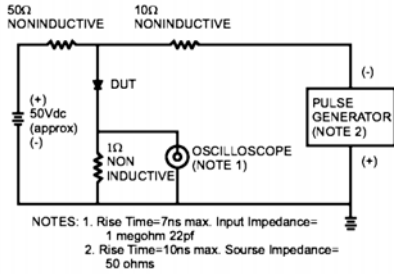


FIG. 2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

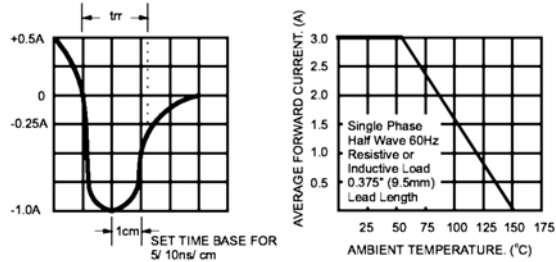


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

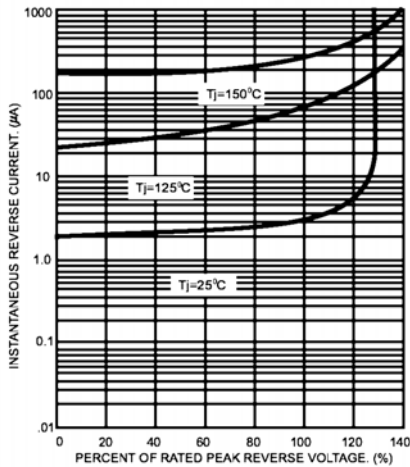


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

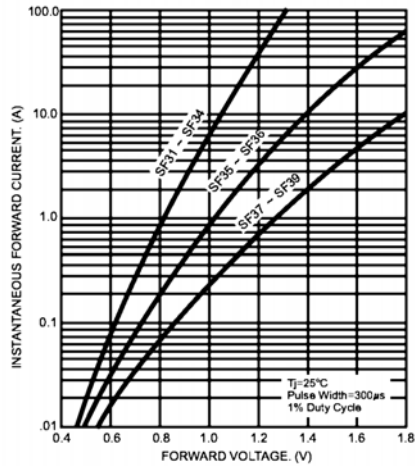


FIG. 5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

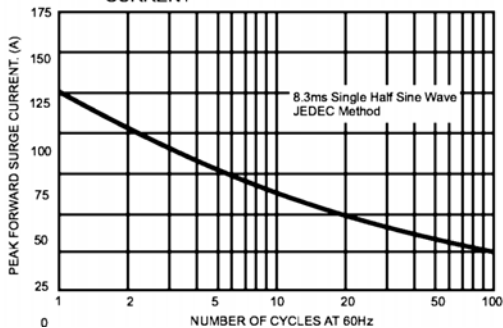


FIG. 6- TYPICAL JUNCTION CAPACITANCE

