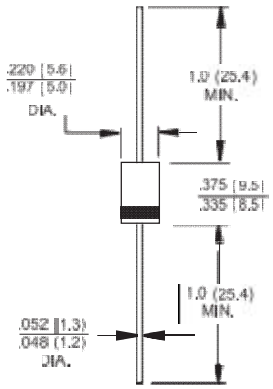
SF31 - SF310

3.0 AMPS. Super Fast Rectifiers

VOLTAGE RANGE: 50-1000V
FORWARD CURRENT: 3.0A

DO-201AD



Dimensions in inches and (millimeters)

Features

- ◇ High efficiency, low VF
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability
- ◇ Low power loss .
- ◇ For use in low voltage, high frequency inventor, free wheeling, and polarity protection application

Mechanical Data

- ◇ Cases: Molded plastic
- ◇ Epoxy: UL 94V-0 rate flame retardant
- ◇ Polarity: Color band denotes cathode
- ◇ High temperature soldering guaranteed: 260°C/10 seconds/.375",(9 .5mm) lead lengths at 5 lbs ., (2 .3kg) tension
- ◇ Weight: 1.2 grams

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	SF 39	SF 310	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	350	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	800	1000	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				1.25		1.7		2.5		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)	Trr	35										nS
Typical Junction Capacitance (Note 2)	Cj	80				70						pF
Typical Thermal resistance	$R_{\theta JA}$	35										°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 .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 .

SF31 - SF310

3.0 AMPS. Super Fast Rectifiers

RATINGS AND CHARACTERISTIC CURVES (SF31 THRU SF310)

FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

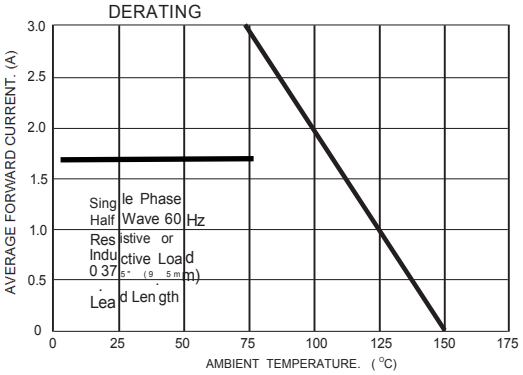


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

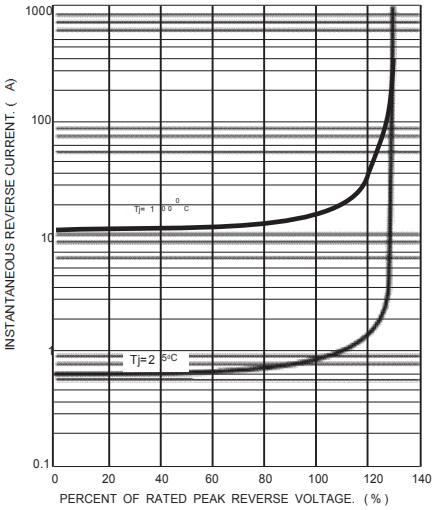


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

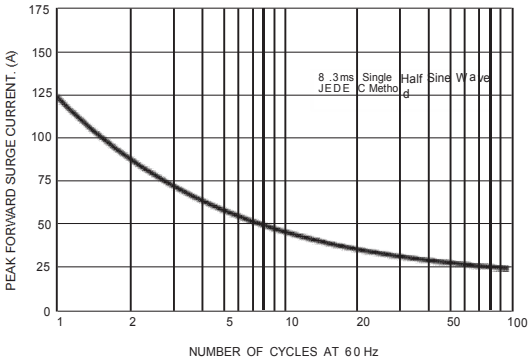


FIG. 4- TYPICAL JUNCTION CAPACITANCE

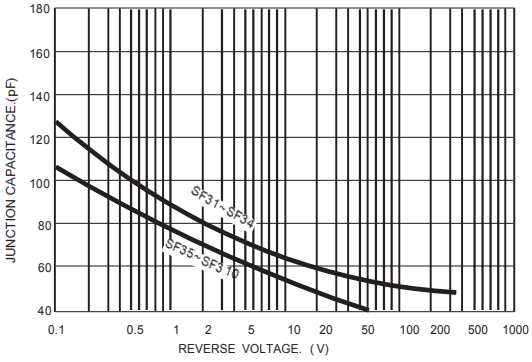


FIG. 5- TYPICAL FORWARD CHARACTERISTICS

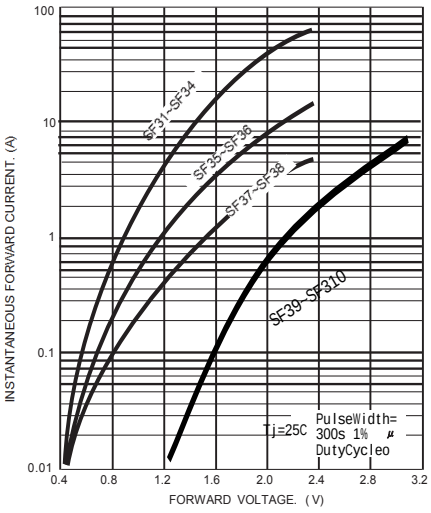
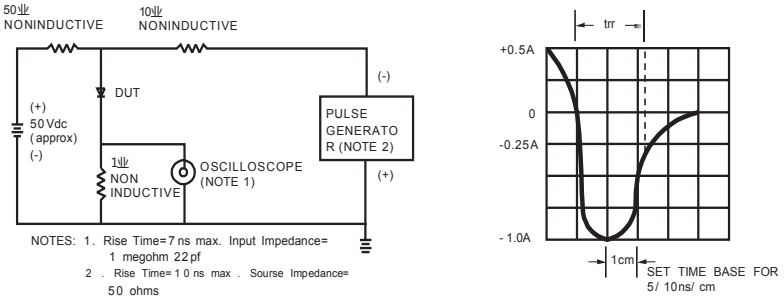


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
DO-27	1250/AMMO	12500	40X26.5X30	14.00	12.00