



SF54 THRU SF58

5.0 AMPS. Super Fast Rectifiers



Voltage Range
200 to 600 Volts
Current
5.0 Amperes

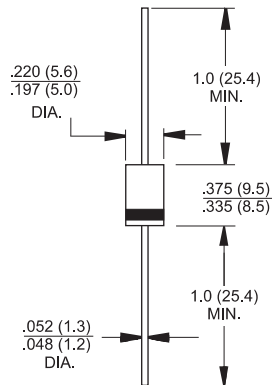
Features

- ✧ 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: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ 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	Symbol	SF54	SF58	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	600	V
Maximum RMS Voltage	V_{RMS}	140	420	V
Maximum DC Blocking Voltage	V_{DC}	200	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$	$I_{(AV)}$	5.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150		A
Maximum Instantaneous Forward Voltage @ 5.0A	V_F	0.975	1.7	V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	I_R	5.0 100		uA uA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35		nS
Typical Junction Capacitance (Note 2)	C_j	120	60	pF
Typical Thermal Resistance (Note 3)	$R_{\theta_{JA}}$ $R_{\theta_{JL}}$	20 5.0		°C/W
Operating Temperature Range	T_J	-65 to +125		°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 P.C.B.

RATINGS AND CHARACTERISTIC CURVES (SF54 THRU SF58)

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

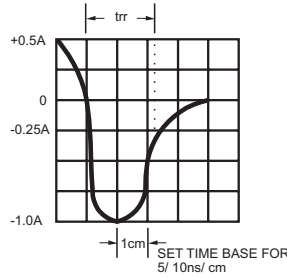
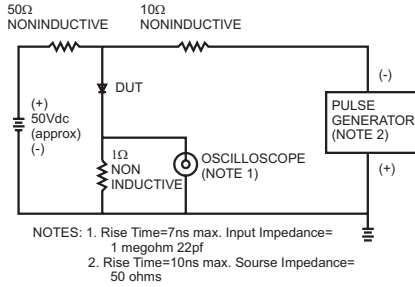


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

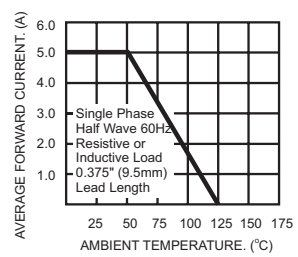


FIG.3- TYPICAL REVERSE CHARACTERISTICS

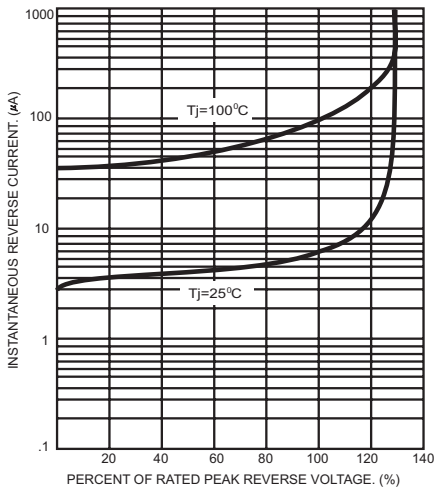


FIG.4- TYPICAL FORWARD CHARACTERISTICS

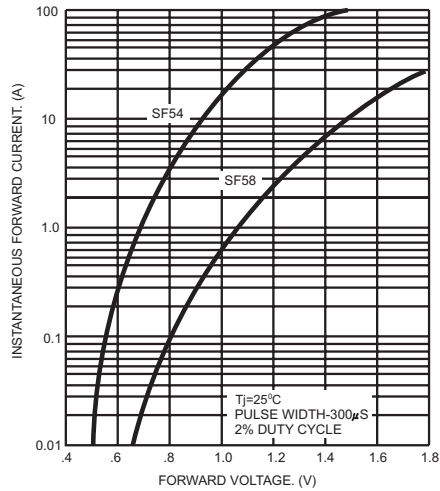


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

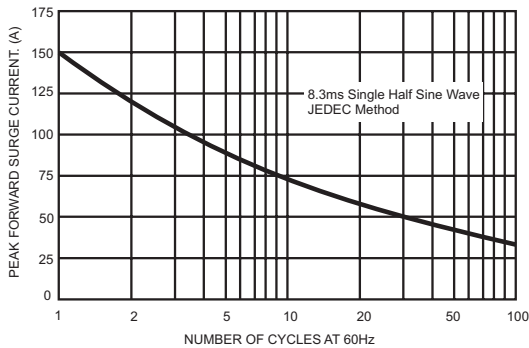


FIG.6- TYPICAL JUNCTION CAPACITANCE

