

SF5X SERIES

SUPERFAST RECOVERY RECTIFIER

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SF51 THRU SF58

SUPERFAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 50 to 600 VOLTS
FORWARD CURRENT: 5.0 AMPERE

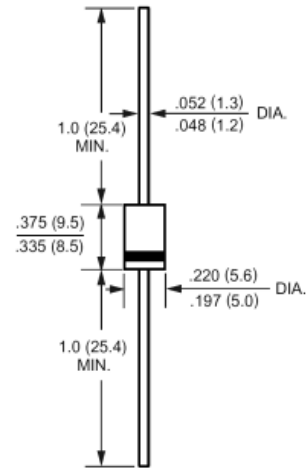
FEATURES

- High surge capability
- Low forward voltage, high current capability
- Hermetically sealed
- Superfast recovery times
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage.

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
 Mounting position: Any
 Weight: 0.04ounce, 1.1gram

DO-201AD



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%.

	Symbols	SF51	SF52	SF53	SF54	SF55	SF56	SF58	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 at $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0							Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amp	
Maximum Forward Voltage at 5.0A DC and 25°C	V_F	0.95			1.25		1.7		Volts	
Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	I_R	5.0				50				uAmp
Typical Junction Capacitance (Note 1)	C_J	45							pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	25							°C/W	
Maximum Reverse Recovery Time (Note 3)	T_{RR}	35					50			nS
Operating Junction Temperature Range	T_J	-55 to +125							°C	
Storage Temperature Range	T_{stg}	-55 to +150							°C	

NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance Junction to Ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B. Mounted.
- 3- Reverse Recovery Test Conditions: $I_F=.5A$, $I_R=1A$, $I_{RR}=.25A$.

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RATINGS AND CHARACTERISTIC CURVES

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

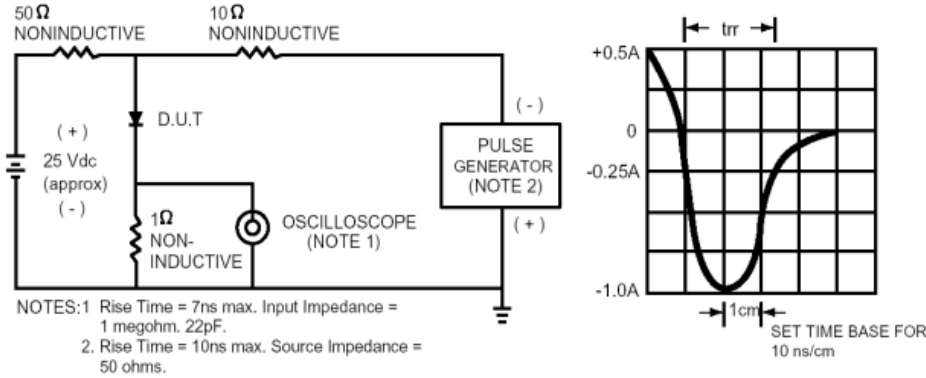


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

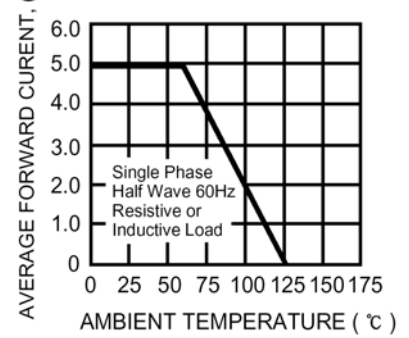


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

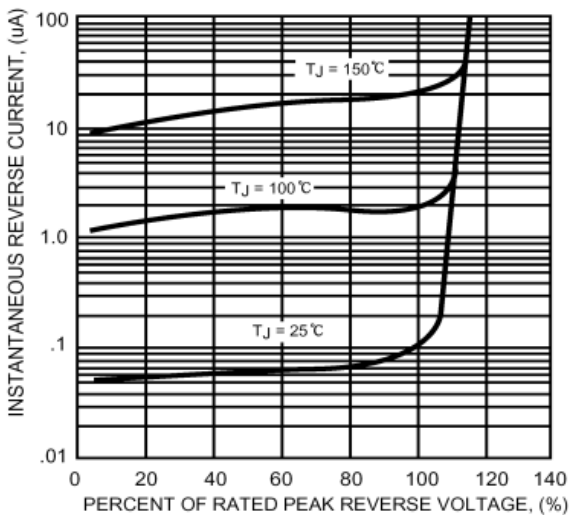


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

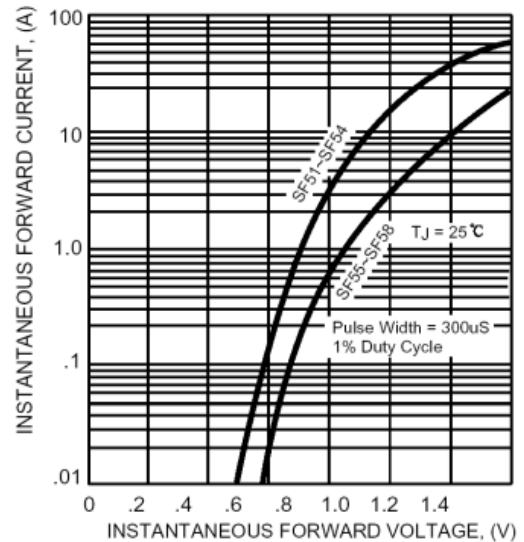


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

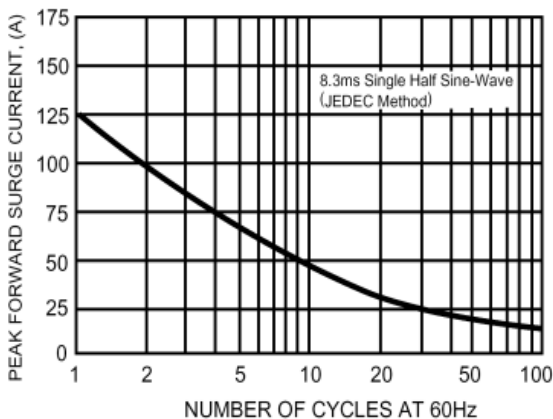


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

