SF51 THRU SF58

SUPERFAST RECOVERY RECTIFIER

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HORNBY ELECTRONIC

REVERSE VOLTAGE: **50 to 600 VOLTS**

FORWARD CURRENT: **5.0 AMPERE**

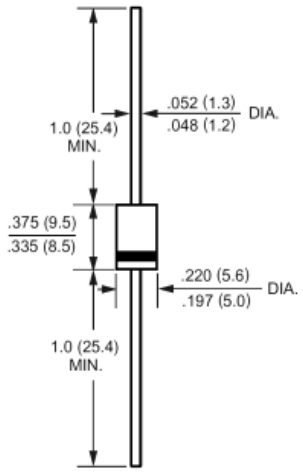
FEATURES

· 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℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60H_Z, 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℃	$I_{(AV)}$	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℃	V_F	0.95				1.25		1.7	**Volts**
Maximum Reverse Current at T_A=25℃ at Rated DC Blocking Voltage T_A=100℃	I_R	5.0 50							**uAmp**
Typical Junction Capacitance (Note 1)	C_J	45							**pF**
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	25							**℃/W**
Maximum Reverse Recovery Time (Note 3)	T_{RR}	35						50	**nS**
Operating Junction Temperature Range	T_J	-55 to +125							**℃**
Storage Temperature Range	Tstg	-55 to +150							**℃**

NOTES:

1- Measured at 1 MH_Z and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance Junction to Ambient and form 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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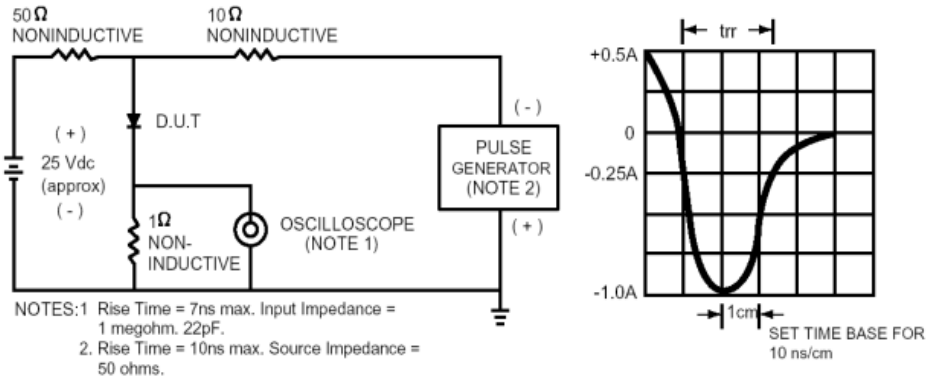
RATINGS AND CHARACTERISTIC CURVES

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



NOTES:1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

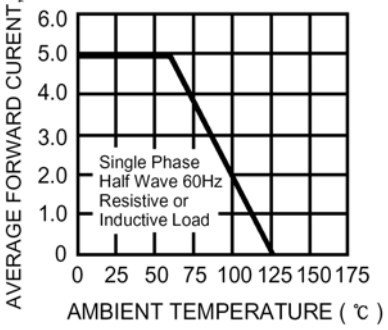


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

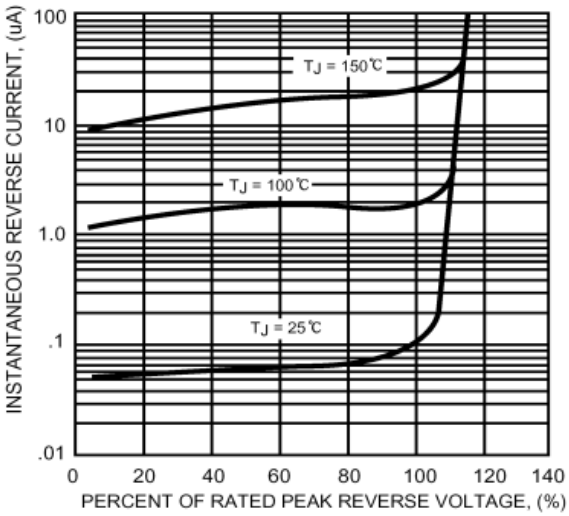


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

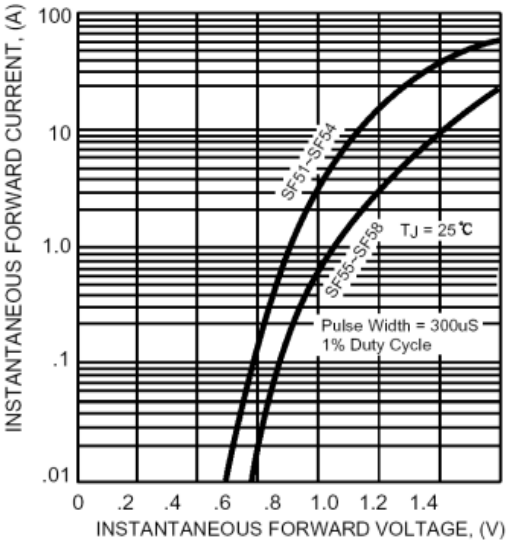


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

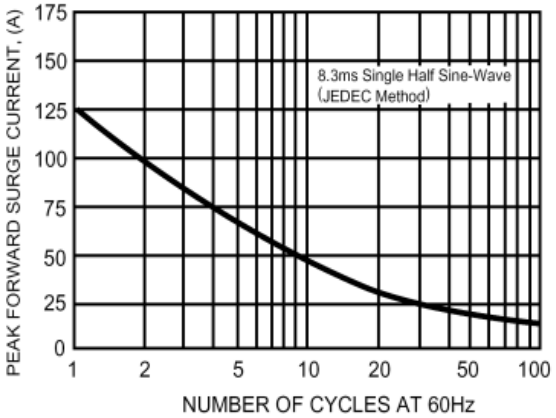
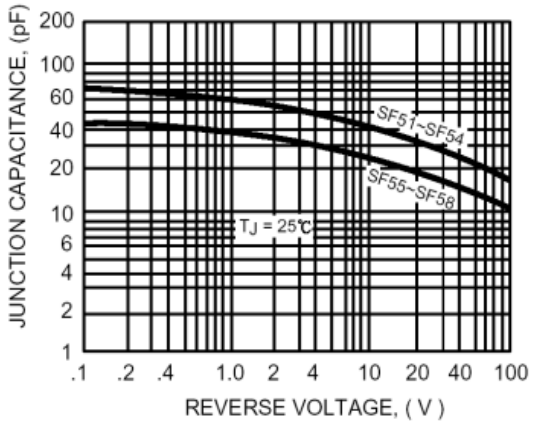



FIG. 6 - TYPICAL JUNCTION CAPACITANCE