

SF51 - SF59

SUPER FAST RECTIFIER DIODES

PRV : 50 - 1000 Volts

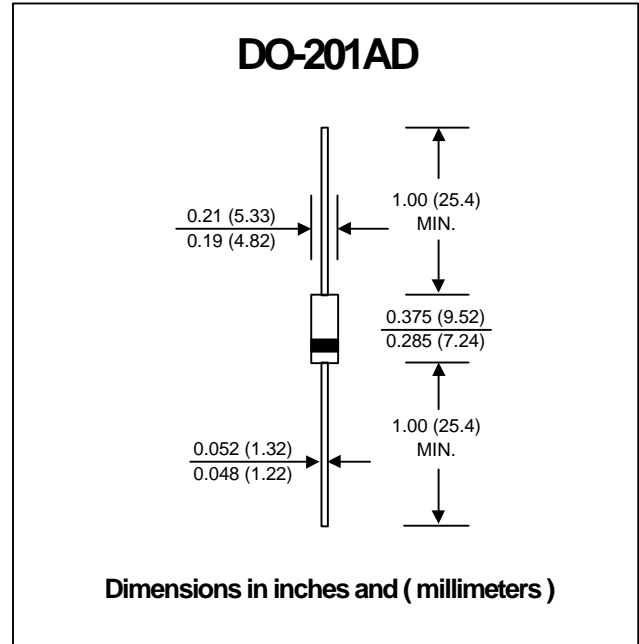
Io : 5.0 Amperes

FEATURES :

- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Super fast recovery time

MECHANICAL DATA :

- * Case : DO-201AD Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 1.21 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%.

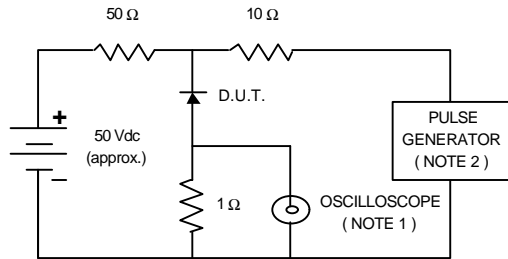
RATING	SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	SF57	SF58	SF59	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	800	1000	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	560	700	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	800	1000	Volts
Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 55 °C	I _{F(AV)}	5.0									Amps.
Peak Forward Surge Current, 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I _{FSM}	135									Amps.
Maximum Peak Forward Voltage at I _F = 5.0 A.	V _F	0.95			1.4		1.7			Volts	
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C	I _R	5									μA
	I _{R(H)}	50									μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35									ns
Typical Junction Capacitance (Note 2)	C _J	50									pf
Junction 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 = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{DC}

RATING AND CHARACTERISTIC CURVES (SF51 - SF59)

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



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.
 3. All Resistors = Non-inductive Types.

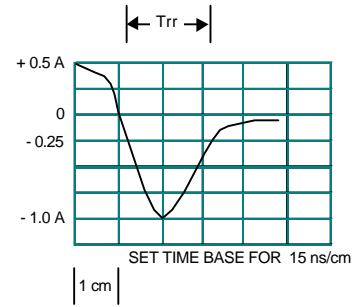


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

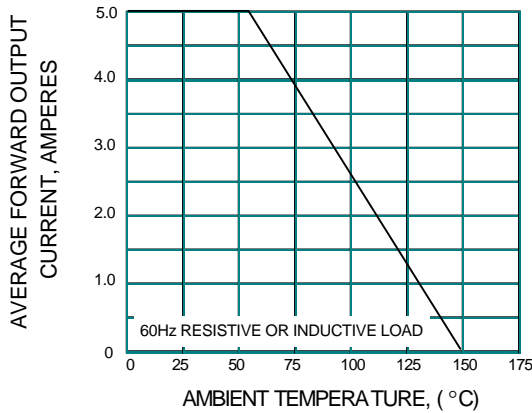


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

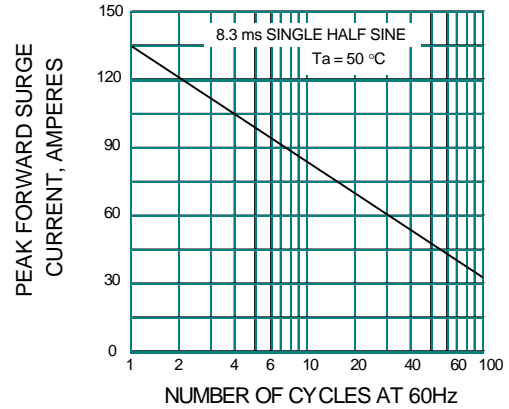


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

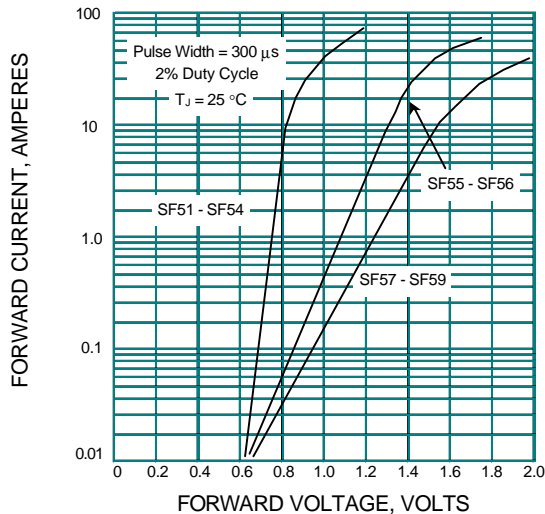


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

