

FR301 - FR307-STR

FAST RECOVERY RECTIFIER DIODES

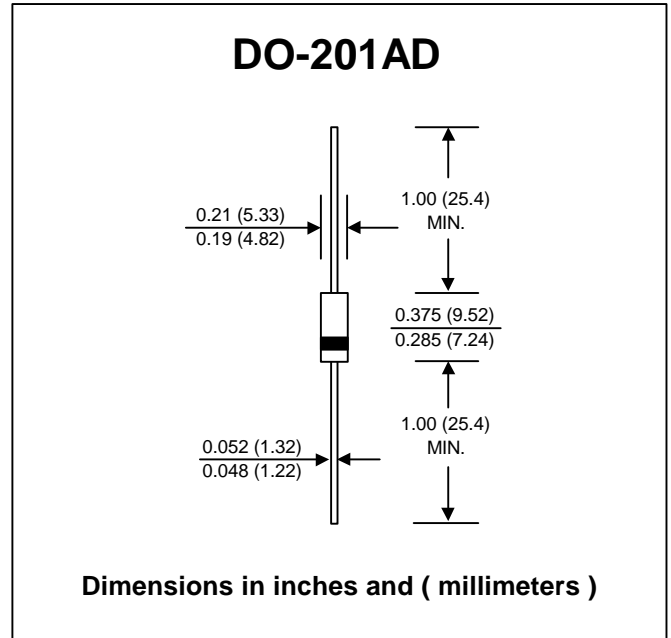
PRV : 50 - 1000 Volts
Io : 3.0 Amperes

FEATURES :

- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Fast switching for high efficiency

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 : 1.16 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%.

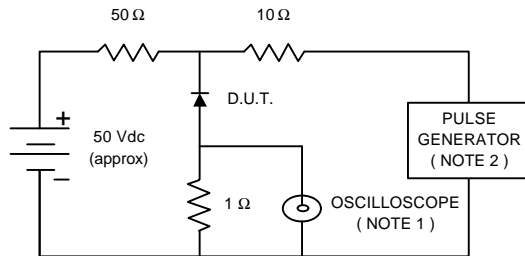
RATING	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR306	FR307	FR307-STR	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	1000	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 55 °C	I _{F(AV)}	3.0								A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I _{FSM}	200								A
Maximum Peak Forward Voltage at I _F = 3 A	V _F	1.3								V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C	I _R	10								μA
	I _{R(H)}	150								μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	150			250	500	250			ns
Typical Junction Capacitance (Note 2)	C _J	60								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 (FR301 - FR307-STR)

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.

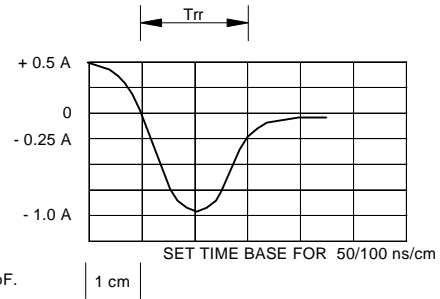


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

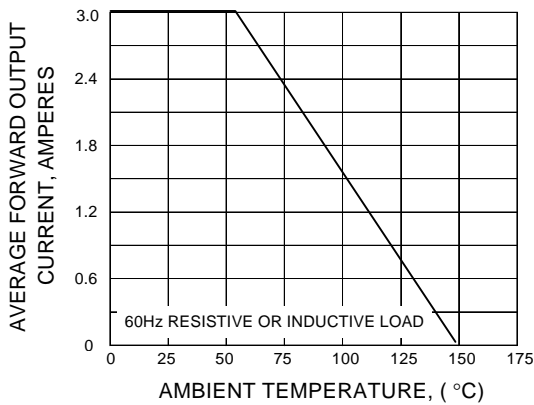


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

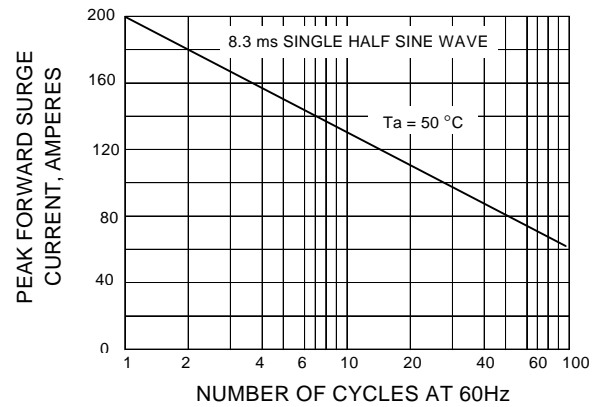


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

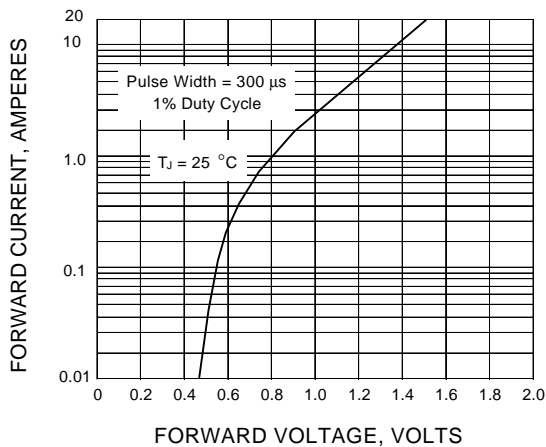


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

