

FR501 - FR507

PRV : 50 - 1000 Volts
Io : 5.0 Amperes

FEATURES :

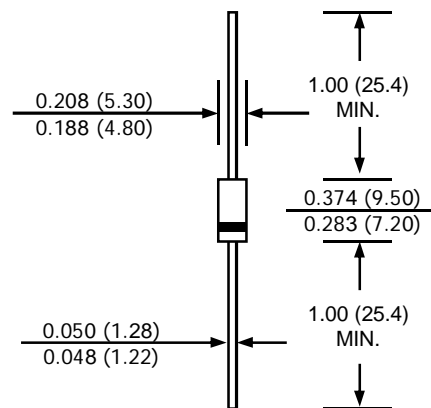
- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Fast switching for high efficiency
- * **Pb / RoHS Free**

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

FAST RECOVERY RECTIFIER DIODES

DO - 201AD



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%.

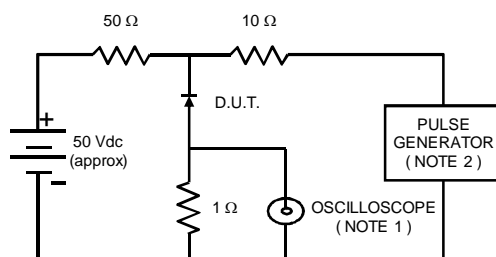
RATING	SYMBOL	FR501	FR502	FR503	FR504	FR505	FR506	FR507	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current Half-Wave Resistive Load Ta = 75 °C	I _{F(AV)}	5.0							A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I _{FSM}	300							A
Maximum Peak Forward Voltage at I _F = 5 A	V _F	1.3							V
Maximum DC Reverse Current at V _{RRM}	I _R	10							μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	150			250		500		ns
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.

RATING AND CHARACTERISTIC CURVES (FR501 - FR507)

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.

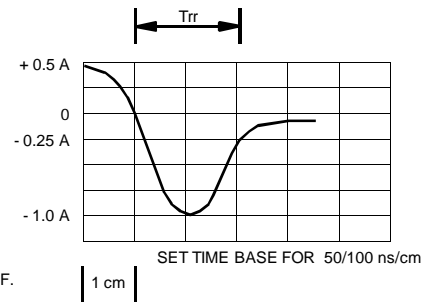


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

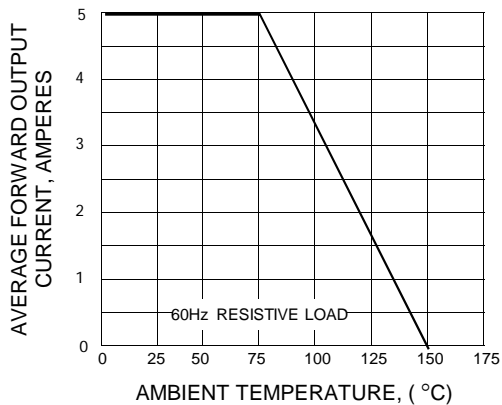


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

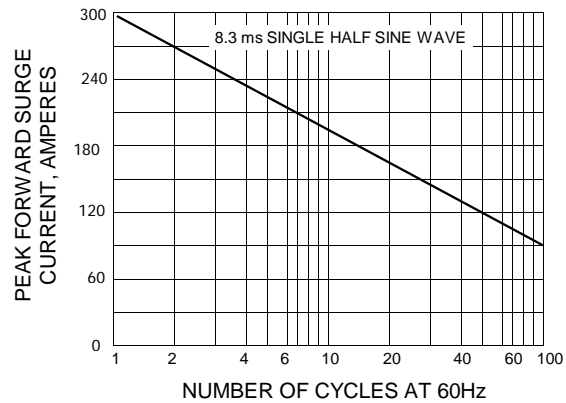


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

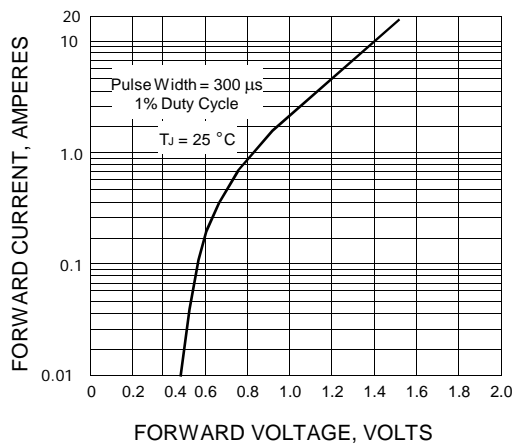


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

