



FR301 THRU FR307, BY396 THRU BY399

3.0 AMPS. FAST RECOVERY RECTIFIERS



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability

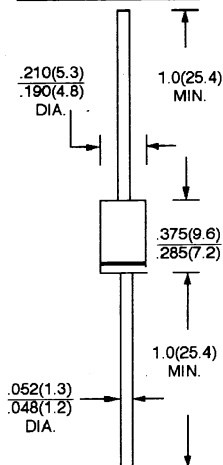
MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting Position: Any
- * Weight: 1.18 grams

VOLTAGE RANGE

50 to 1000 Volts
CURRENT
3.0 Amperes

DO-201AD



Dimensions in inches and (millimeters)

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%

TYPE NUMBER	SYMBOLS	FR301	FR302	FR303	FR304	FR305	FR306	FR307	UNITS
			BY396	BY397	BY398		BY399		
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 D. C Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375" (9.5mm) lead length @ $T_A = 55^\circ C$	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							A
Maximum Instantaneous Forward Voltage at 3.0A	V_F	1.3							V
Maximum D. C Reverse Current @ $T_A = 25^\circ C$ at Rated D. C Blocking Voltage @ $T_A = 100^\circ C$	I_R	10.0							μA
		150							μA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	150			250		500		nS
Typical Junction Capacitance (Note 2)	C_J	60							pF
Operating Temperature Range	T_J	- 65 to + 125							$^\circ C$
Storage Temperature Range	T_{STG}	- 65 to + 150							$^\circ C$

NOTES: 1. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$.
2. Measured at 1 MHz and applied reverse voltage of 4.0V D. C.

RATINGS AND CHARACTERISTIC CURVES (FR301 THRU FR307, BY396 THRU BY399)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

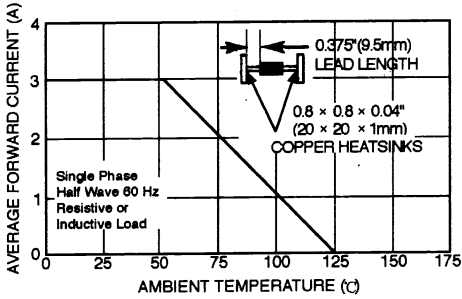


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

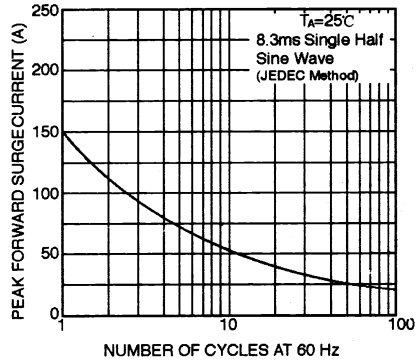


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

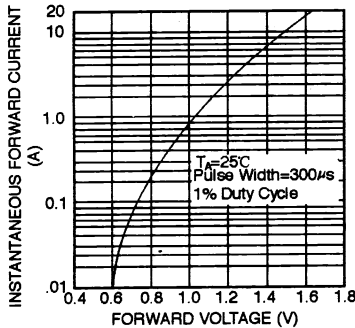


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

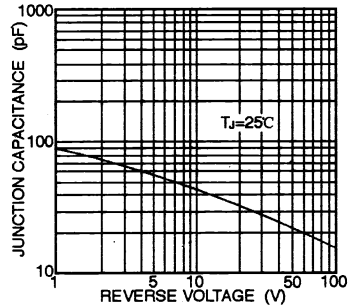
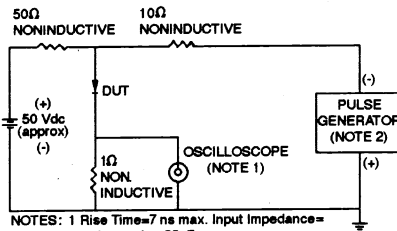


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

