



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**FR301
THRU
FR307**

TECHNICAL SPECIFICATIONS OF FAST RECOVERY RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 3.0 Amperes

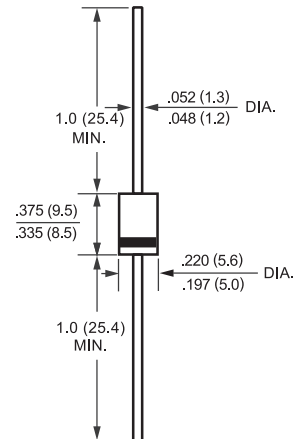
FEATURES

- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High current surge
- * High reliability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Mounting position: Any
- * Weight: 1.18 grams

DO-27



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR306	FR307	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T _A = 75°C	I _O	3.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	200							Amps
Maximum Instantaneous Forward Voltage at 3.0A DC	V _F	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C	I _R	10							uAmps
Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T _L = 55°C		150							uAmps
Maximum Reverse Recovery Time (Note 1)	t _{rr}	150				250	500		nSec
Typical Junction Capacitance (Note 2)	C _J	65							pF
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to + 150							°C

NOTES : 1. Test Conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATING AND CHARACTERISTIC CURVES (FR301 THRU FR307)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

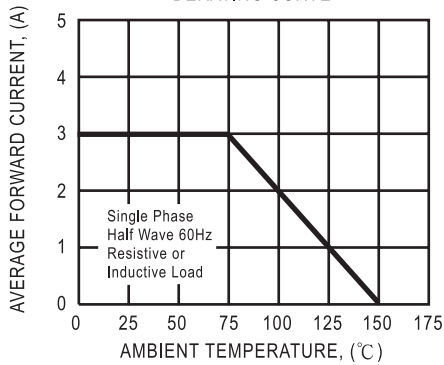


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

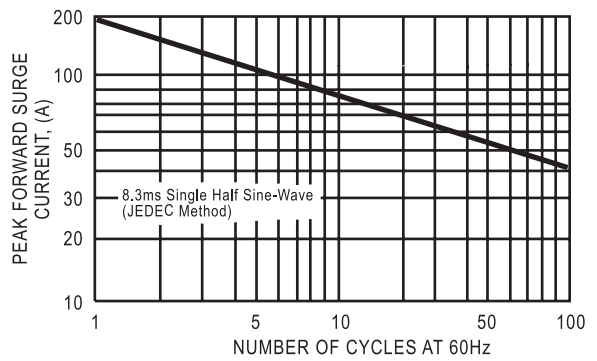


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

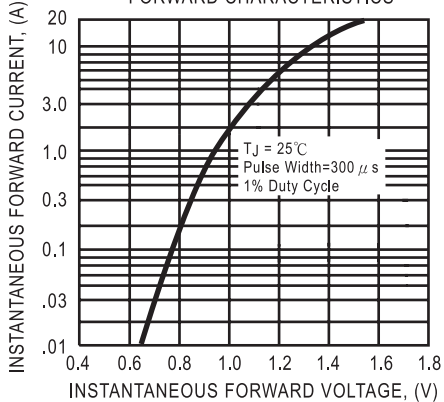


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

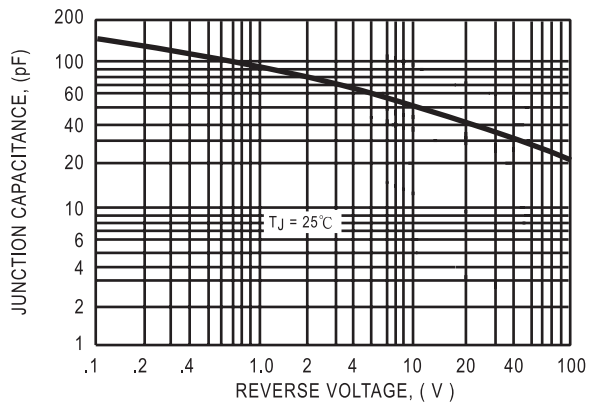
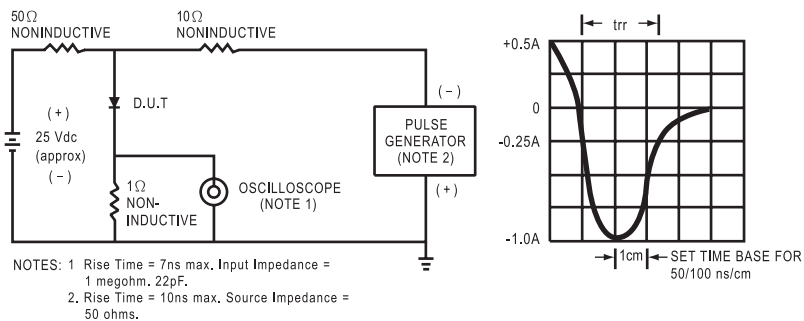


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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