

# FAST RECOVERY RECTIFIER

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

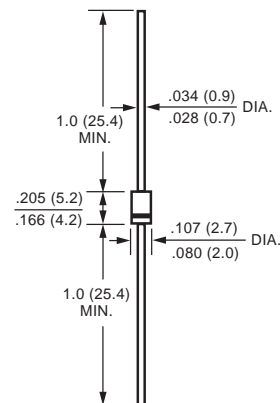
## FEATURES

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

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.33 gram

**DO-41**



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%.

### MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	FR101	FR102	FR103	FR104	FR105	FR105P	FR106	FR107	FR107P	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	600	800	1000	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	400	560	700	700	Volts
Maximum DC Blocking Voltage	Vdc	50	100	200	400	600	600	800	1000	1000	Volts
Maximum Average Forward Rectified Current at TA = 75°C	Io	1.0									Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	30									Amps
Typical Junction Capacitance (Note 2)	CJ	15									pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150									°C

### ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	FR101	FR102	FR103	FR104	FR105	FR105P	FR106	FR107	FR107P	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC	VF	1.3									Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	IR	5.0									uAmps
Maximum Full Load Reverse Current Full Cycle Average, .375" (9.5mm) lead length at TL = 55°C		100									uAmps
Maximum Reverse Recovery Time (Note 1)	trr	150			250		150	500		250	nSec

NOTES : 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A

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

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## RATING AND CHARACTERISTIC CURVES ( FR101 THRU FR107 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

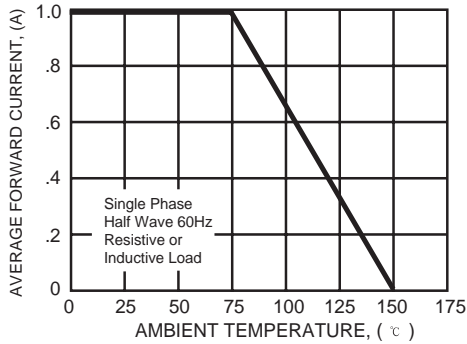


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

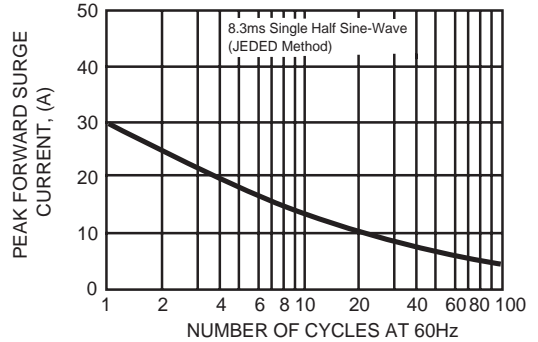


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

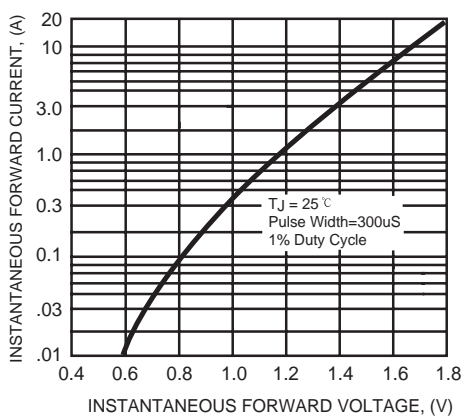


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

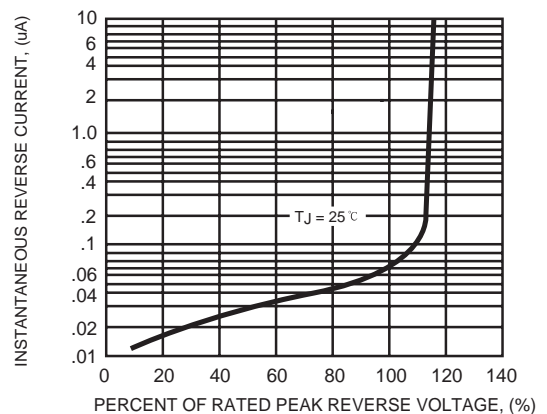


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

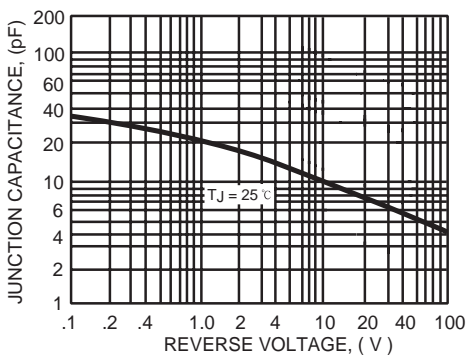


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

