

**FAST RECOVERY RECTIFIER**

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

**FEATURES**

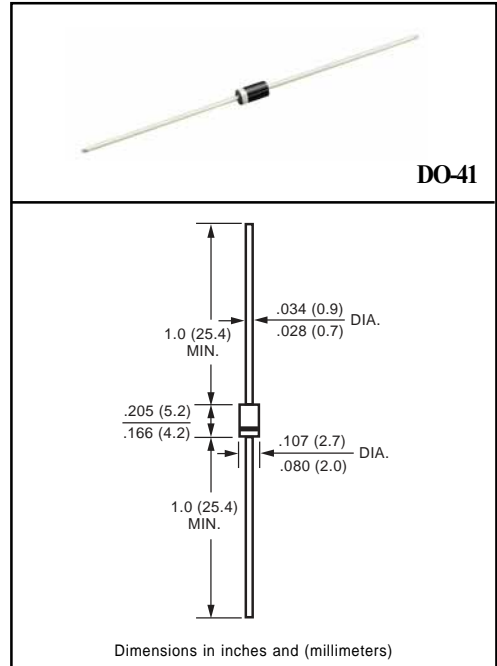
- \* Fast switching
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High surge capability
- \* High reliability

**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

**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

# RATING AND CHARACTERISTIC CURVES ( FR101 THRU FR107 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

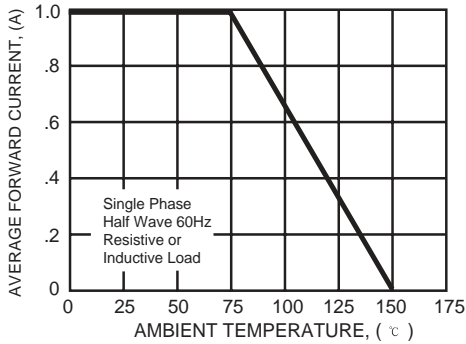


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

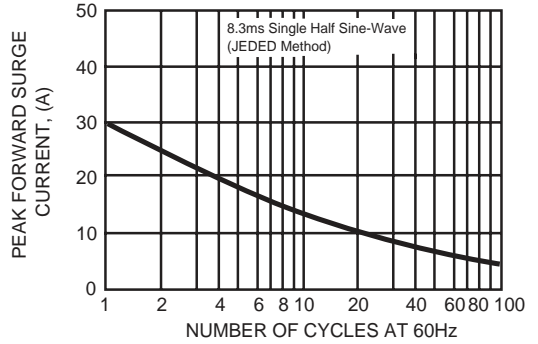


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

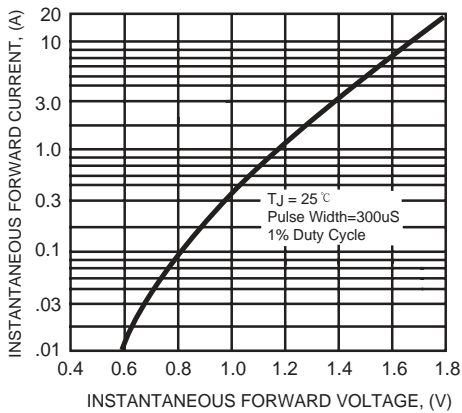


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

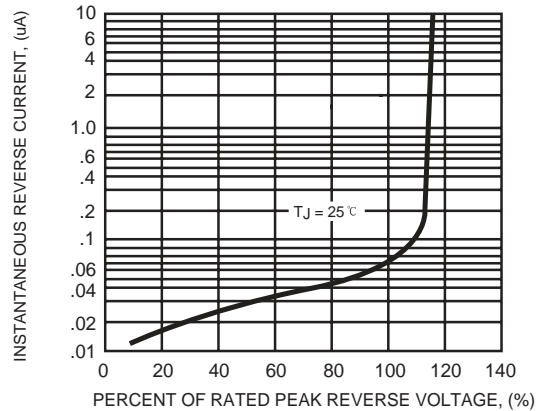


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

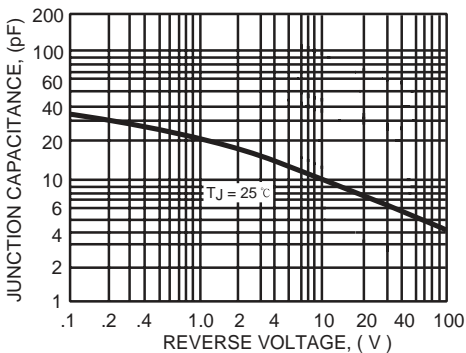


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

