

**FAST RECOVERY RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.0 Amperes**

**FEATURES**

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

**MECHANICAL DATA**

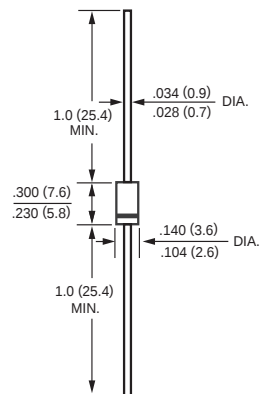
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.38 gram

**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%.



**DO-15**



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

| RATINGS                                                                                              | SYMBOL   | FR201        | FR202 | FR203 | FR204 | FR205 | FR205P | FR206 | FR207 | FR207P | 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   | 420    | 560   | 700   | 700    | Volts |
| Maximum DC Blocking Voltage                                                                          | VDC      | 50           | 100   | 200   | 400   | 600   | 600    | 800   | 1000  | 1000   | Volts |
| Maximum Average Forward Rectified Current<br>at TA = 75°C                                            | Io       | 2.0          |       |       |       |       |        |       |       |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM     | 70           |       |       |       |       |        |       |       |        | Amps  |
| Typical Junction Capacitance (Note 2)                                                                | Cj       | 40           |       |       |       |       |        |       |       |        | pF    |
| Operating and Storage Temperature Range                                                              | TJ, TSTG | -55 to + 150 |       |       |       |       |        |       |       |        | °C    |

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

| CHARACTERISTICS                                                                                 | SYMBOL | FR201 | FR202 | FR203 | FR204 | FR205 | FR205P | FR206 | FR207 | FR207P | UNITS |
|-------------------------------------------------------------------------------------------------|--------|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|
| Maximum Instantaneous Forward Voltage at 2.0A DC                                                | VF     | 1.3   |       |       |       |       |        |       |       |        | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage TA = 25°C                            | IR     | 5.0   |       |       |       |       |        |       |       |        | uAmps |
| Maximum Full Load Reverse Current Full Cycle Average,<br>.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 ( FR201 THRU FR207 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

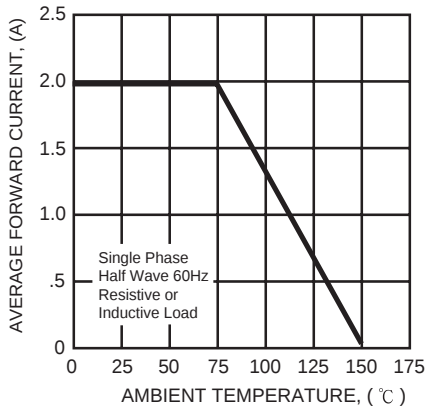


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

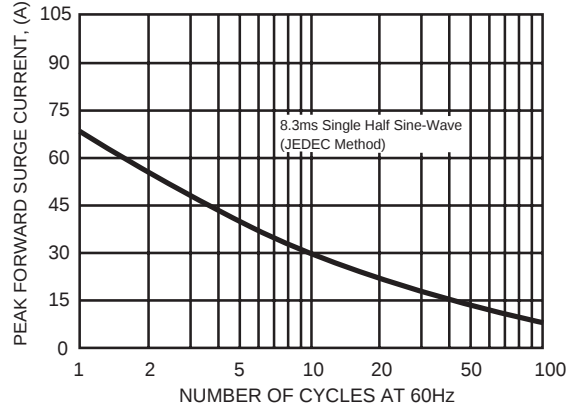


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

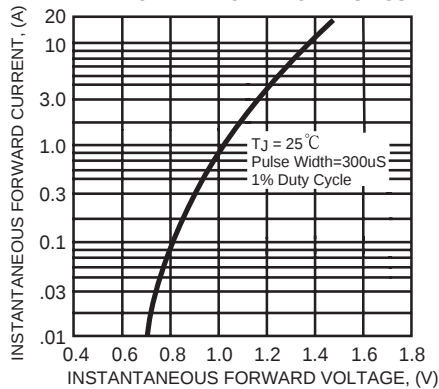


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

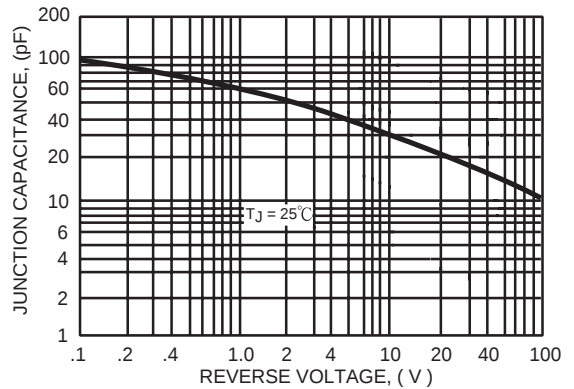


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

