

**FAST RECOVERY RECTIFIER**

**VOLTAGE RANGE 200 to 1000 Volts CURRENT 1.0 Ampere**

**FEATURES**

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

**MECHANICAL DATA**

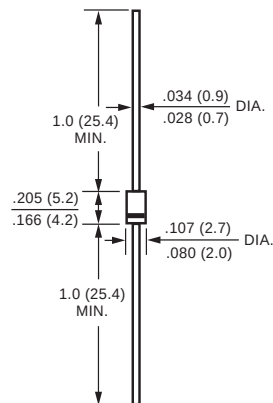
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.33 gram

**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%.



**DO-41**



Dimensions in inches and (millimeters)

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

| RATINGS                                                                                           | SYMBOL   | 1N4942       | 1N4944 | 1N4946 | 1N4947 | 1N4948 | UNITS |
|---------------------------------------------------------------------------------------------------|----------|--------------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                            | VRRM     | 200          | 400    | 600    | 800    | 1000   | Volts |
| Maximum RMS Voltage                                                                               | VRMS     | 140          | 280    | 420    | 560    | 700    | Volts |
| Maximum DC Blocking Voltage                                                                       | VDC      | 200          | 400    | 600    | 800    | 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 | 1N4942 | 1N4944 | 1N4946 | 1N4947 | 1N4948 | 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    |        | 500    | 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 ( 1N4942 THRU 1N4948 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

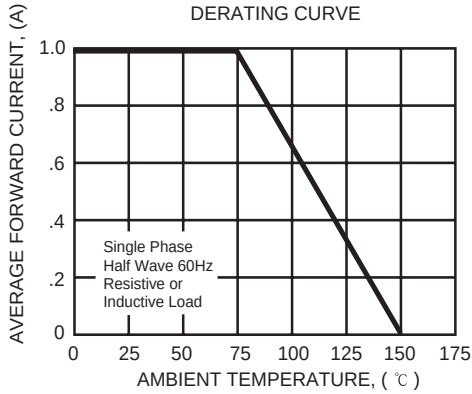


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

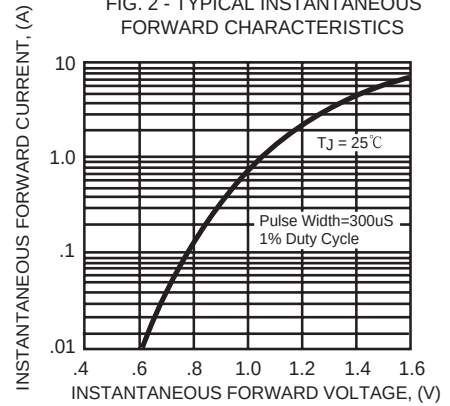


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

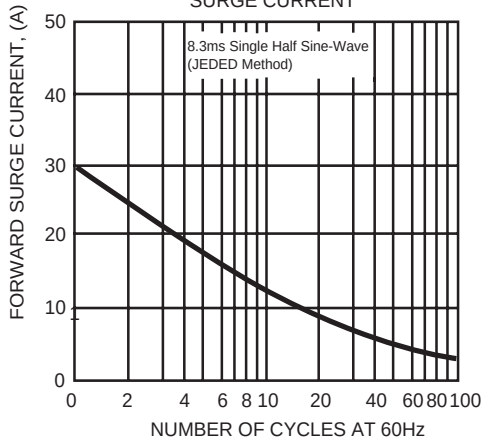


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

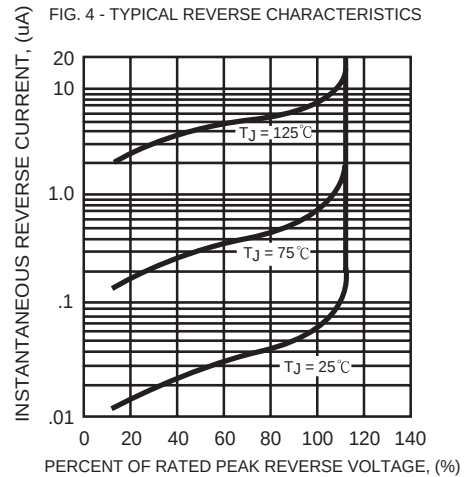


FIG. 3 - TYPICAL JUNCTION CAPACITANCE

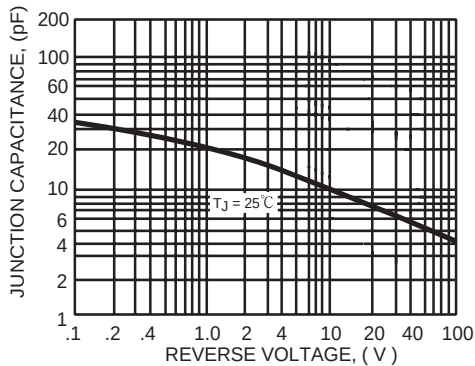


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

