

FAST RECOVERY RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere

FEATURES

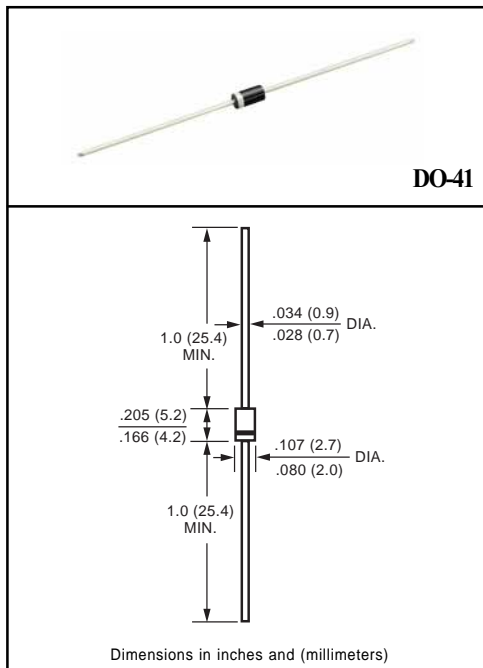
- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High surge capability
- * High reliability

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 | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 600 | 800 | 1000 | 1000 | Volts |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 400 | 560 | 700 | 700 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 600 | 800 | 1000 | 1000 | Volts |
| Maximum Average Forward Rectified Current at TA = 75°C | I _O | 1.0 | | | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 30 | | | | | | | | | Amps |
| Typical Junction Capacitance (Note 2) | C _J | 15 | | | | | | | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -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 | V _F | 1.3 | | | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C | I _R | 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) | t _{rr} | 150 | | | 250 | 150 | 500 | 250 | | | nSec |

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 (FR101 THRU FR107)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

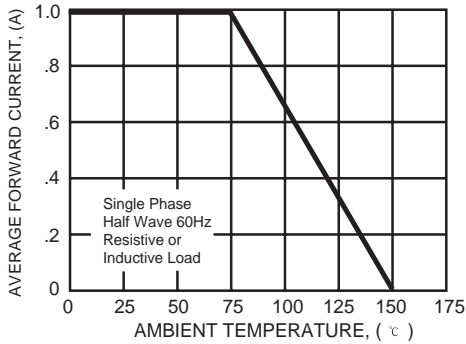


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

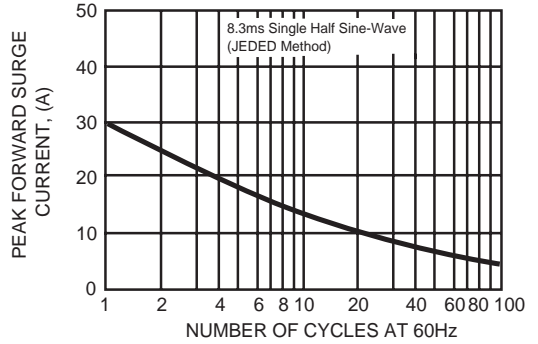


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

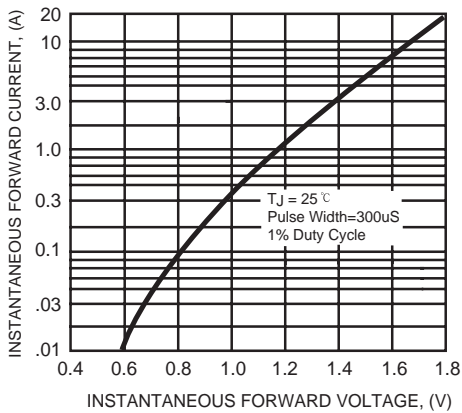


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

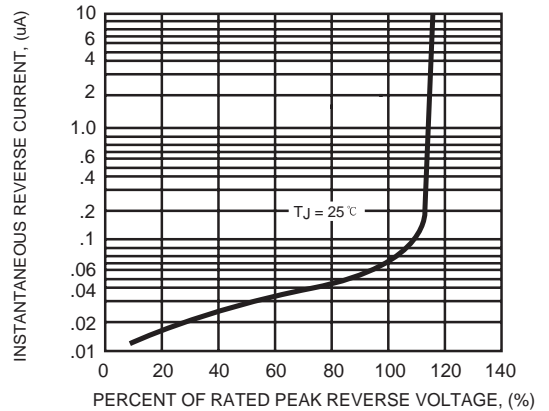


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

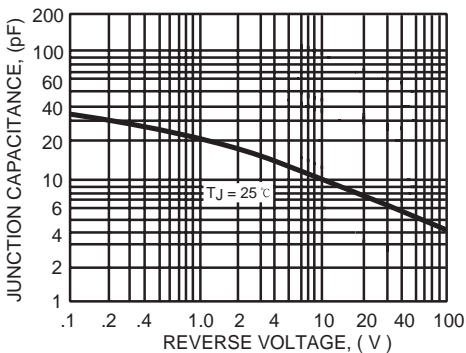
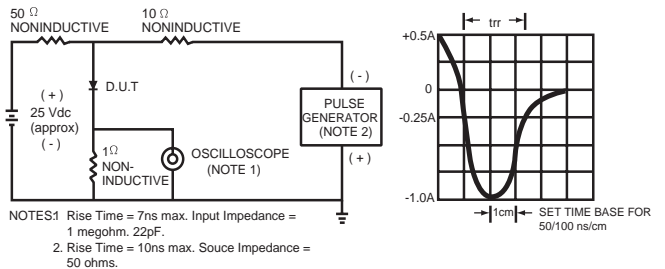


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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