

FR101 THRU FR107

FAST RECOVERY RECTIFIERS

Reverse Voltage - 50 to 1000 V

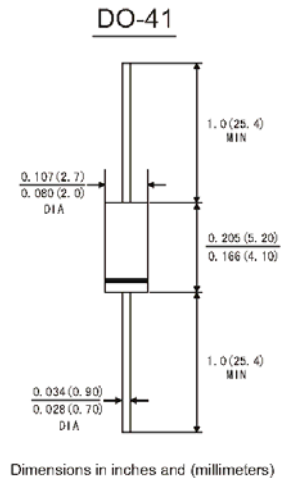
Forward Current - 1 A

Features

- High current capability
- High reliability
- Low leakage

Mechanical Data

- Case: Molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any



Maximum Ratings and Electrical Characteristics

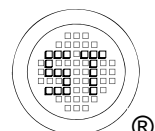
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half-wave, 60 Hz, resistive or inductive load, for capacitive load, derate current by 20%.

| Parameter | Symbols | FR101 | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Units |
|-----------------------------------------------------------------------------------------------------------|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| | Marking | FR101 | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | - |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Length at $T_A = 55\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V_F | 1.3 | | | | | | | V |
| Maximum Reverse Current at Rated DC Blocking Voltage | I_R | 5 500 | | | | | | | μA |
| Typical Junction Capacitance ¹⁾ | C_J | 15 | | | | | | | pF |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ | 50 | | | | | | | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time ³⁾ | t_{rr} | 150 | | | 250 | | 500 | | nS |
| Operating and Storage temperature range | T_J, T_{stg} | - 55 to + 150 | | | | | | | $^\circ\text{C}$ |

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 V D.C.

²⁾ Thermal resistance from junction to ambient 0.375"(9.5 mm) lead length P.C.B mounted.

³⁾ Reverse recovery test conditions: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.



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Electrical Characteristics Curves

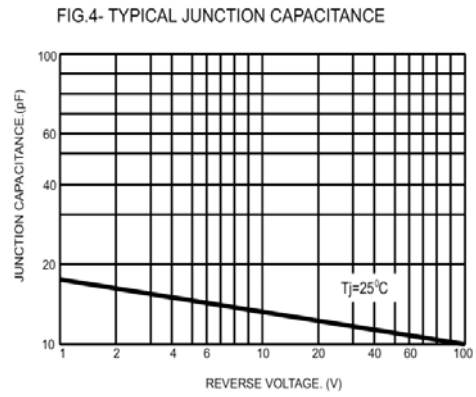
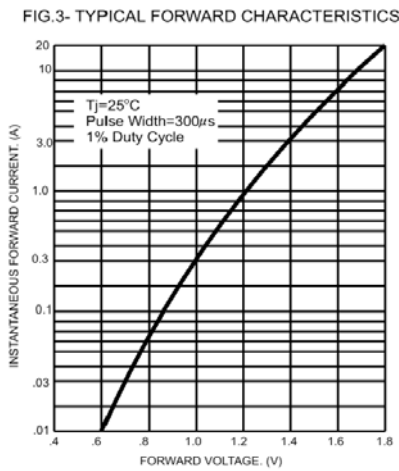
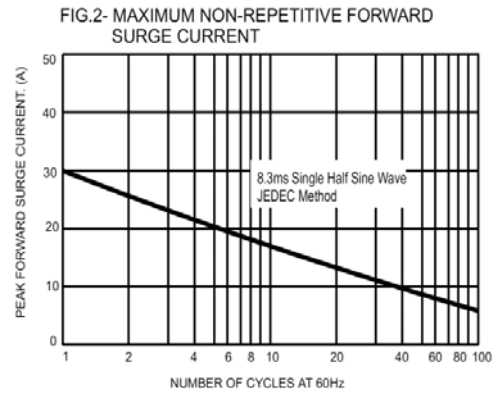
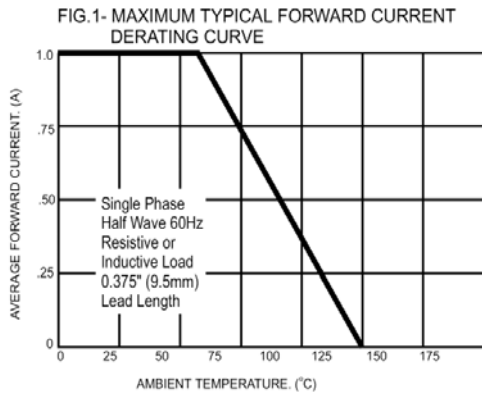


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

