

FR101 THRU FR107

FAST RECOVERY RECTIFIERS

Reverse Voltage - 50 to 1000 V

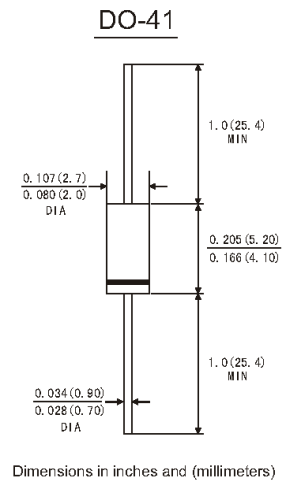
Forward Current - 1 A

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

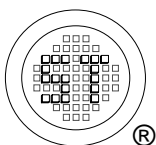
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half-wave, 60 Hz, resistive or inductive load, for capacitive load, derate current by 20%.

| Parameter | Symbols | FR101 | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Units |
|--|-----------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| 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 °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 T _A = 25 °C at Rated DC Blocking Voltage T _A = 100 °C | I _R | 5 500 | | | | | | | µA |
| Typical Junction Capacitance ¹⁾ | C _J | 15 | | | | | | | pF |
| Typical Thermal Resistance ²⁾ | R _{θJA} | 50 | | | | | | | °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 | | | | | | | °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: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company
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Dated : 14/07/2008 H

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FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

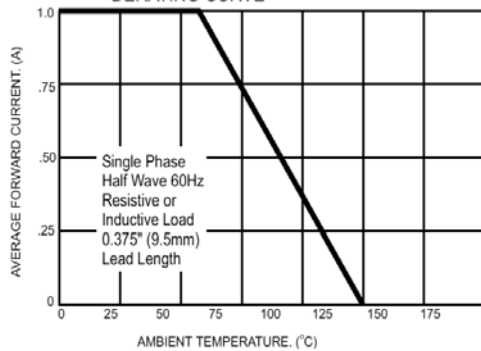


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

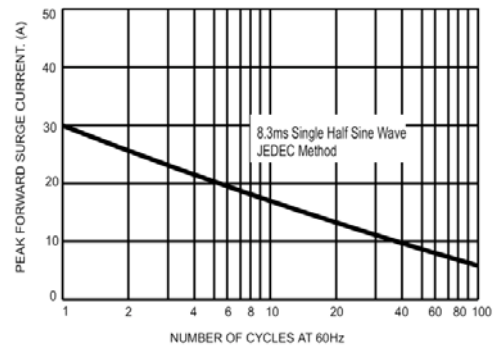


FIG.3- TYPICAL FORWARD CHARACTERISTICS

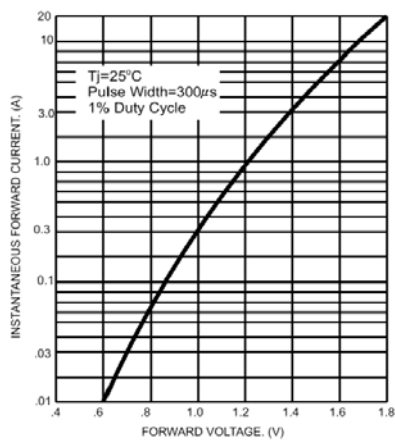


FIG.4- TYPICAL JUNCTION CAPACITANCE

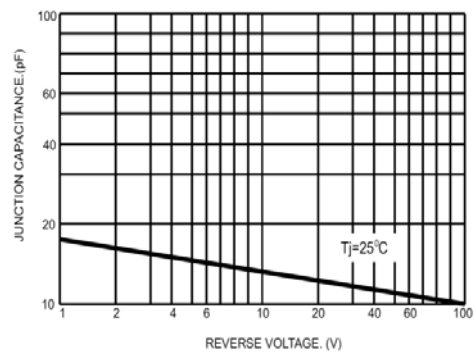
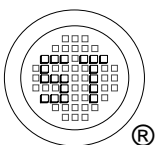
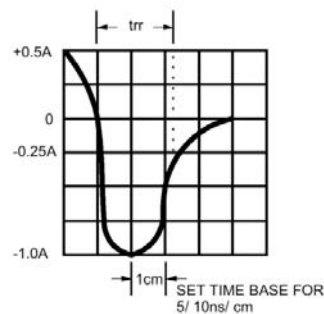
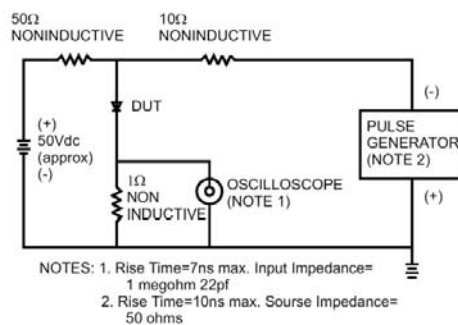


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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