



# 1.0 A Fast Recovery Silicon Rectifier

Rectifier Reverse Voltage 50 to 1000V

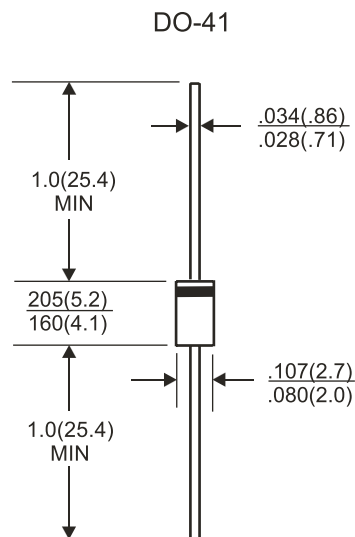


## Features

- Diffused junction
- Fast switching for high efficiency
- High current capability and low Forward Voltage Drop
- Surge overload rating to 30A peak
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

## Mechanical Data

Case: Molded plastic  
Terminals: Solder plated solderable per MIL-STD-202,  
Method 208  
Polarity: Cathode band  
Mounting Position: Any  
Weight: 0.3grams (approx)



All dimensions inches and (millimeters)

## Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
For Capacitive load derate current by 20%.

| Parameter   | Symbol   | FR101        | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | unit |
|---|----------|--------------|-------|-------|-------|-------|-------|-------|------|
| Maximum repetitive peak reverse voltage   | VRRM     | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum RMS bridge input voltage  | VRMS     | 35           | 70    | 140   | 280   | 420   | 560   | 700   | v    |
| Maximum DC blocking voltage   | VDC      | 50           | 100   | 200   | 400   | 600   | 800   | 1000  | v    |
| Maximum average forward rectified output current at TA=75°C                           | IF(AV)   | 1.0          |       |       |       |       |       |       | A    |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | IFSM     | 30.0         |       |       |       |       |       |       | A    |
| Maximum reverse recovery time TJ=25°C   | Trr      | 150          |       |       |       | 250   | 500   |       | nS   |
| Typical thermal resistance per element  | ReJA     | 50           |       |       |       |       |       |       | °C/W |
| Typical junction capacitance per element  | Cj       | 15           |       |       |       |       |       |       | pF   |
| Operating junction and storage temperature range                                      | TJ, TSTG | -65 to + 150 |       |       |       |       |       |       | °C   |

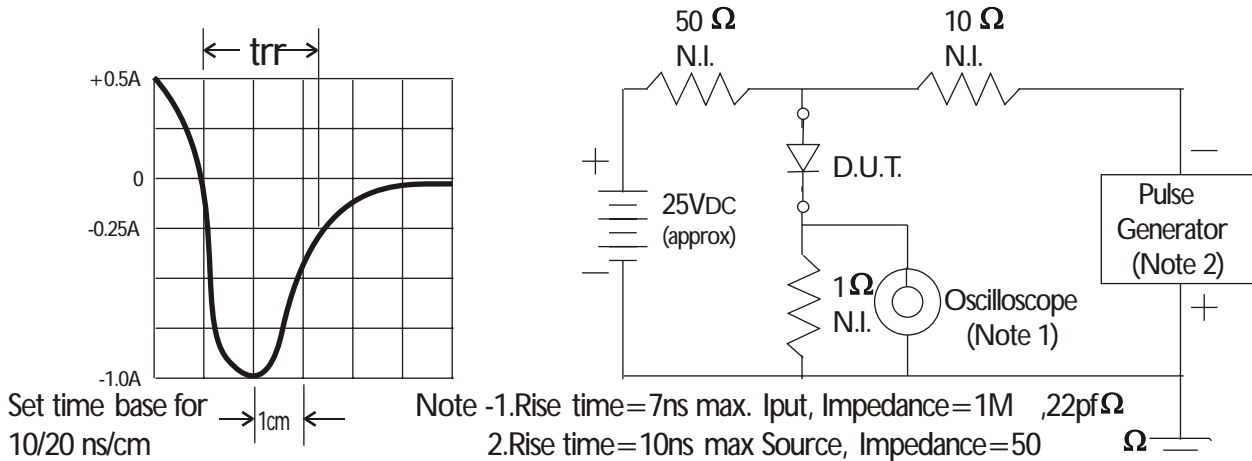
## Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
For Capacitive load derate by 20 %.

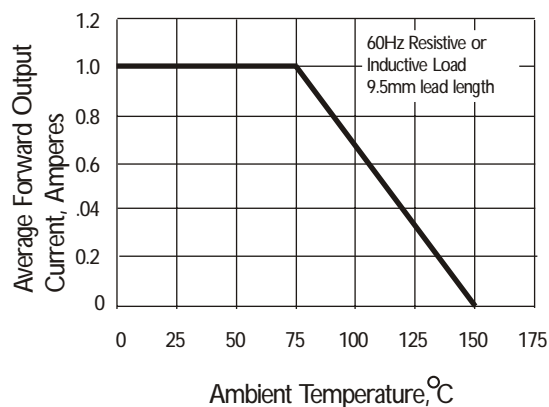
| Parameter   | Symbol | FR101       | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Unit |
|---|--------|-------------|-------|-------|-------|-------|-------|-------|------|
| Maximum instantaneous forward voltage drop per leg at 1.0A                                | VF     | 1.3         |       |       |       |       |       |       | V    |
| Maximum DC reverse current at rated TA =25°C<br>DC blocking voltage per element TA =125°C | IR     | 5.0<br>50.0 |       |       |       |       |       |       | μA   |

# Rating and Characteristic Curves ( TA=25°C Unless otherwise noted ) FR101 thru FR107

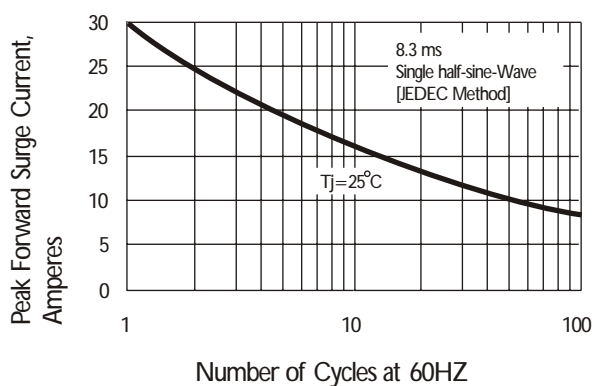
**Fig. 1 Reverse Recovery Time and Test Circuit Diagram**



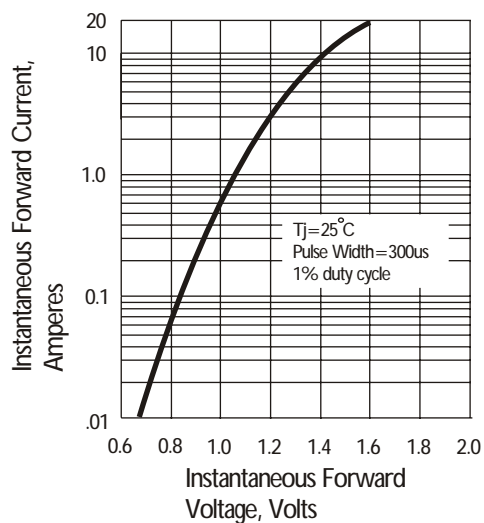
**Fig. 2 Derating Curve for Output Rectified Current**



**Fig. 3 Peak Forward Surge Current**



**Fig. 4 Typical Instantaneous Forward Characteristics**



**Fig. 5 Typical Junction Capacitance**

