

SF51 THRU SF58

SUPERFAST RECOVERY RECTIFIERS

Reverse Voltage – 50 to 600 Volts

Forward Current – 5.0 Amperes

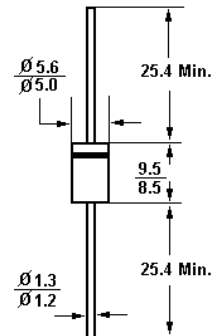
DO-201AD

Features

- Low forward voltage drop
- Low leakage
- High current capability
- Super fast switching speed
- High forward surge capability
- High reliability.

Mechanical Data

- **Case:** JEDEC DO-201AD molded plastic body
- **Epoxy :** UL 94V-O rate flame retardant
- **Lead:** Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any



Dimnsions in mm

Absolute Maximum Ratings and Characteristics

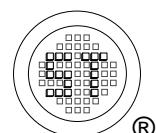
Rating at 25°C ambient temperature unless otherwise specified. Single-phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| | Symbols | SF51 | SF52 | SF53 | SF54 | SF55 | SF56 | SF58 | Units |
|--|-------------------|-------------|------|------|------|------|------|------|-------|
| Repetitive Peak Reverse Voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| RMS Voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| DC Blocking Voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Average Forward Rectified Current 0.375"(9.5mm) Lead Length at T _A = 55°C | I _(AV) | 5.0 | | | | | | | A |
| Peak Forward Surge Current , 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | I _{FSM} | 150 | | | | | | | A |
| Instantaneous Forward Voltage @ 5.0A DC and 25°C | V _F | 0.95 | | | | 1.25 | | 1.7 | V |
| Reverse Current @ T _A = 25°C | I _R | 5.0 | | | | | | | uA |
| at Rated DC Blocking Voltage @ T _A = 100°C | I _R | 500 | | | | | | | uA |
| Reverse Recovery Time (Note 1) | T _{rr} | 35 | | | | | | 50 | ns |
| Typical Junction Capacitance (Note 2) | C _J | 45 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | R _{θJA} | 25 | | | | | | | °C/W |
| Operating Junction Temperature Range | T _J | -55 to +125 | | | | | | | °C |
| Storage Temperature Range | T _{Stg} | -55 to +150 | | | | | | | °C |

Note: (1) Reverse recovery test conditions: $I_F = 0.5A$, $I_R = 1A$, $I_{RR} = 0.25A$.

(2) Measured at 1 MHz and applied reverse voltage of 4 Volts D.C

(3) Thermal resistance junction to ambient and form junction to lead at 0.375" (9.5mm) lead length, P. C. B. mounted.



Dated : 25/04/2005 H

SF51 THRU SF58

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

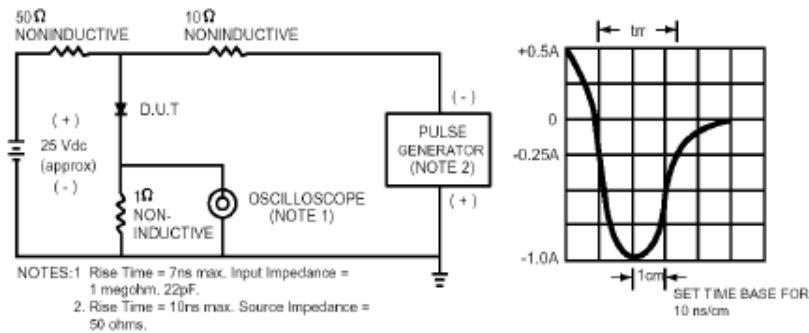


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

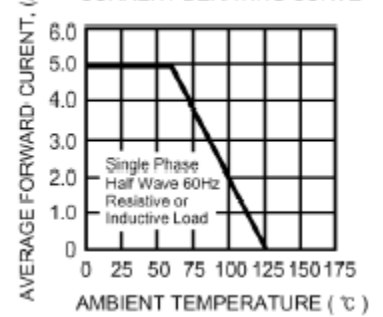


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

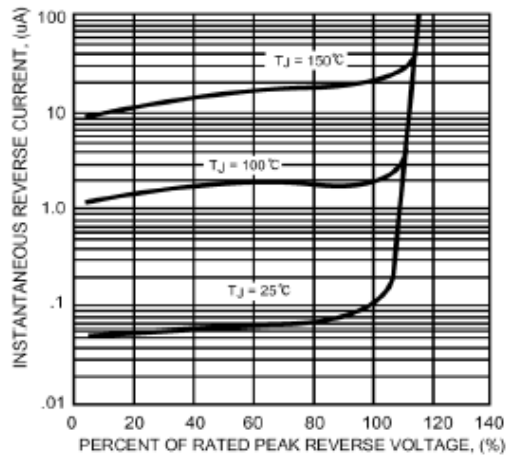


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

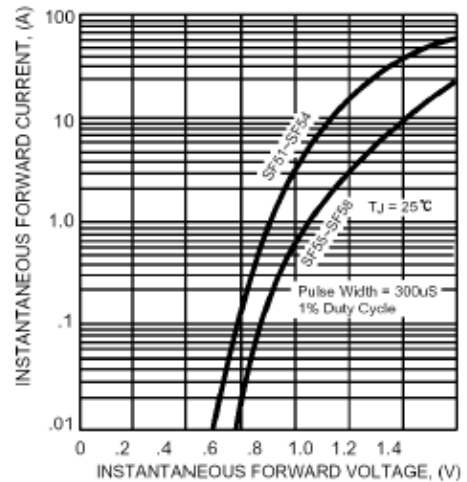


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

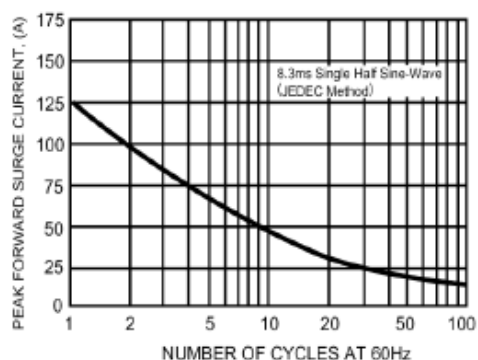


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

