

UF540X SERIES

ULTRAFAST RECOVERY RECTIFIER

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UF5400 THRU UF5408

ULTRAFAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 50 to 1000 VOLTS
FORWARD CURRENT: 3.0 AMPERES

FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Low cost
- Ultrafast recovery time for high efficiency
- Low forward voltage, high current capability
- Low leakage
- High surge capability

MECHANICAL DATA

Case: Molded plastic, DO-201AD

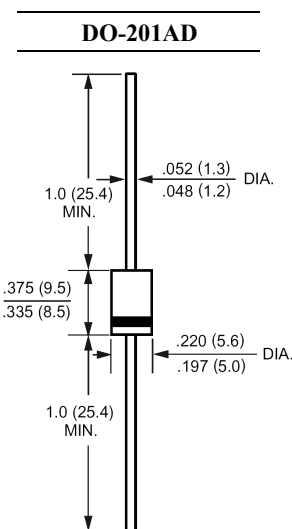
Terminals: Plated axial leads, solderable per

MIL-STD-202, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.04ounce, 1.1gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings 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 | UF5400 | UF5401 | UF5402 | UF5403 | UF5404 | UF5405 | UF5406 | UF5407 | UF5408 | Units |
|---|-----------------------------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 210 | 280 | 350 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at T _A =55 | I _(AV) | 3.0 | | | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 150 | | | | | | | | | Amp |
| Maximum Forward Voltage at 3.0A DC and 25 | V _F | 1.0 | | | | | 1.7 | | | | Volts |
| Maximum Reverse Current at T _A =25 at Rated DC Blocking Voltage T _A =100 | I _R | 10.0 1000 | | | | | | | | | uAmp |
| Typical Junction Capacitance (Note 1) | C _J | 45 | | | | | 36 | | | | pF |
| Typical Thermal Resistance (Note 2) | R _{θJA} | 20 | | | | | | | | | /W |
| Maximum Reverse Recovery Time (Note 3) | T _{RR} | 50 | | | | | 75 | | | | nS |
| Operating and Storage Temperature Range | T _J , T _{stg} | -55 to +150 | | | | | | | | | |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance from Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted with 0.8x0.8" (20x20mm) copper pads.

3- Reverse Recovery Test Conditions : $I_F=5A$, $I_R=1A$, $I_{RR}=25A$.

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RATINGS AND CHARACTERISTIC CURVES

Fig. 1 – Maximum Forward Current Derating Curve

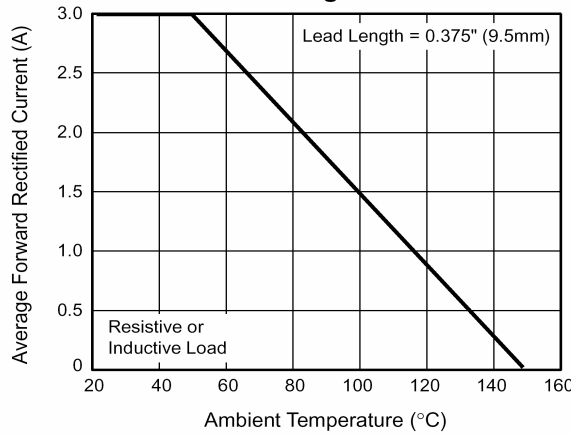


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

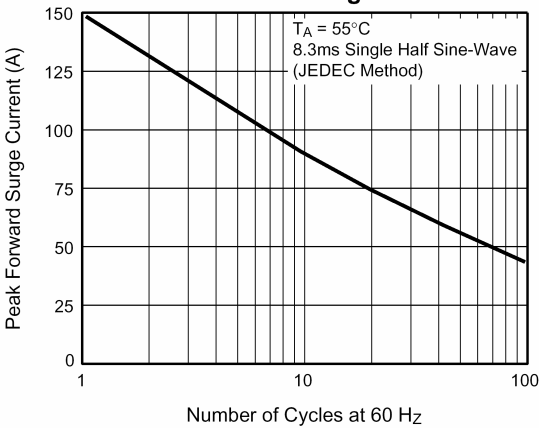


Fig. 3 – Typical Instantaneous Forward Characteristics

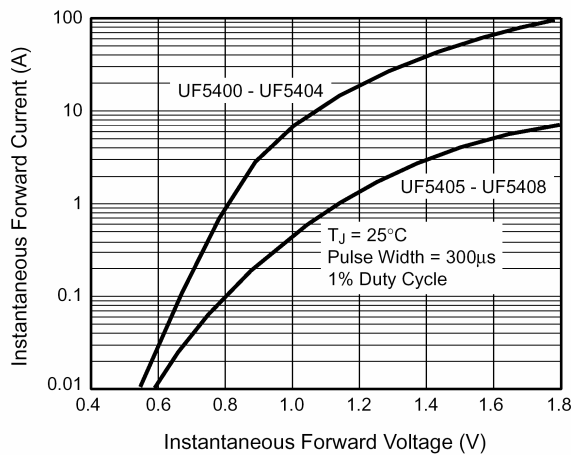


Fig. 4 – Typical Reverse Leakage Characteristics

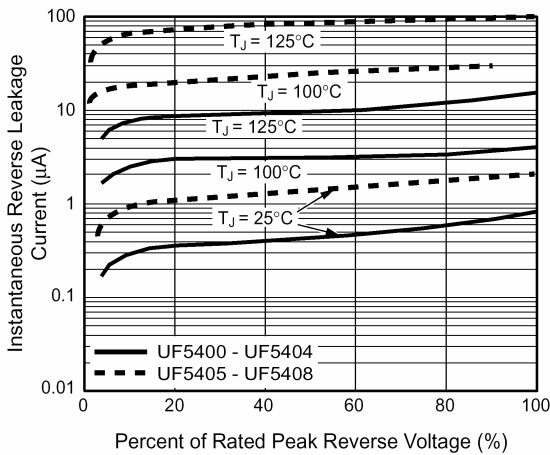


Fig. 5 – Typical Junction Capacitance

