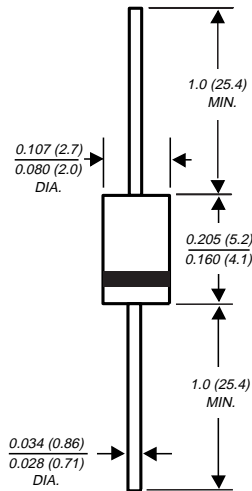


UF4001 THRU UF4007

ULTRAFast EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

DO-204AL



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ 1.0 ampere operation at $T_A=55^\circ\text{C}$ with no thermal runaway
- ◆ Glass passivated chip junction
- ◆ Low cost
- ◆ Ultrafast recovery time for high efficiency
- ◆ Low forward voltage
- ◆ Low leakage current
- ◆ High surge current capability
- ◆ High temperature soldering guaranteed: $250^\circ\text{C}/10$ seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



MECHANICAL DATA

Case: JEDEC DO-204AL molded plastic body over passivated chip

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | UF 4001 | UF 4002 | UF 4003 | UF 4004 | UF 4005 | UF 4006 | UF 4007 | UNITS |
|---|------------------------------------|------------------------|---------|---------|---------|-------------------------|---------|---------|---------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 1.0 | | | | 1.7 | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage | I_R | $T_A=25^\circ\text{C}$ | | 10.0 | | $T_A=100^\circ\text{C}$ | | | μA |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | 50.0 | | | | 75.0 | | | ns |
| Typical junction capacitance (NOTE 2) | C_J | 17.0 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ $R_{\theta JL}$ | 60.0 | | | | 15.0 | | | $^\circ\text{C}/\text{W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

NOTES:

(1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

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

RATINGS AND CHARACTERISTIC CURVES UF4001 THRU UF4007

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

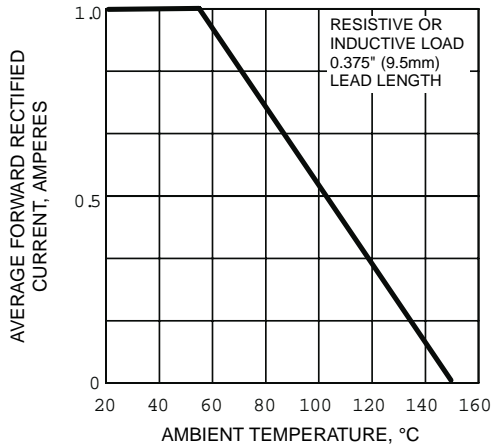


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

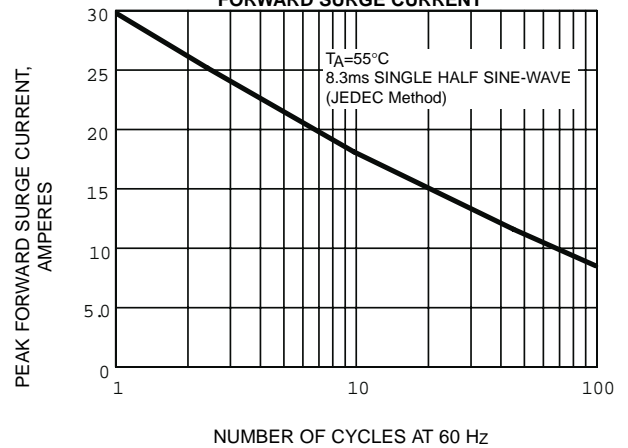


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

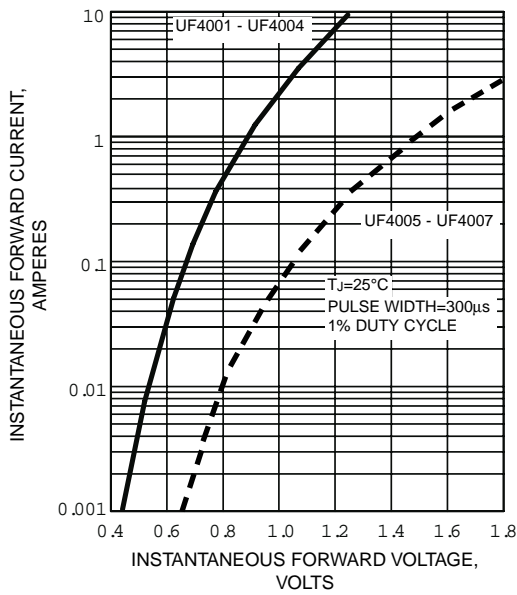


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

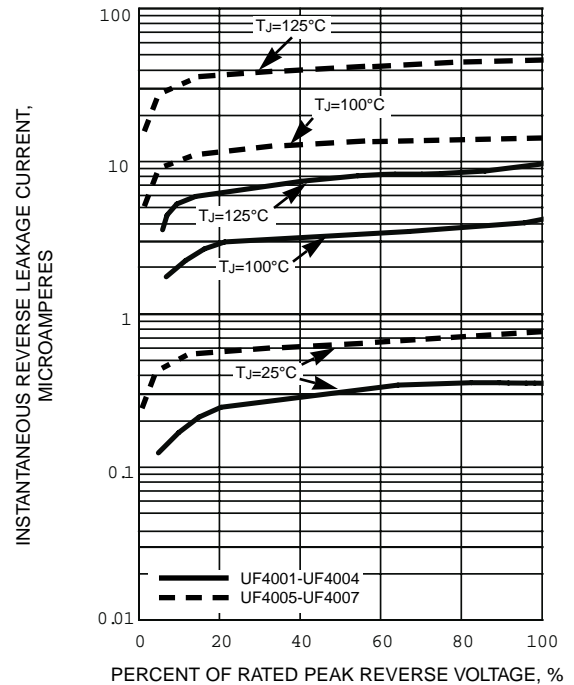


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

