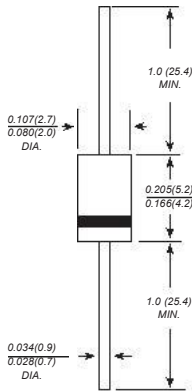


UF4001 THRU UF4007

ULTRA FAST RECTIFIERS

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

DO-41



Dimensions in inches and (millimeters)

FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ultra fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length,
5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-41 molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 ounce, 0.33 grams

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 current derate by 20%.

| | 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 | | | | | | | Amps |
| 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 | | | 1.70 | | | Volts | |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$ | I_R | 5.0 | | | 50.0 | | | mA | |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | 50 | | | 75 | | | ns | |
| Typical junction capacitance (NOTE 2) | C_J | 15.0 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | R_{qJA} | 50.0 | | | | | | | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Note: 1. Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

RATINGS AND CHARACTERISTIC CURVES UF4001 THRU UF4007

FIG. 1- FORWARD CURRENT DERATING CURVE

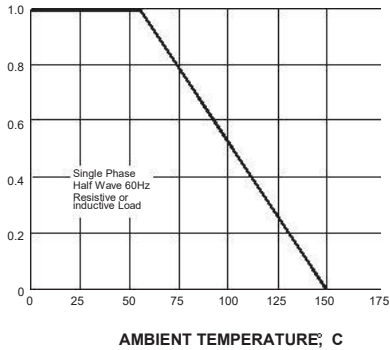


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

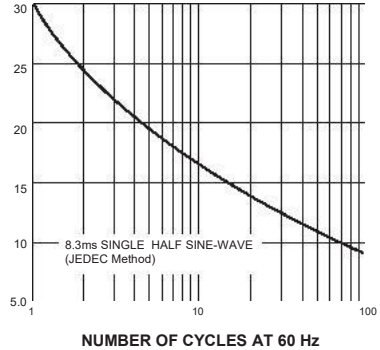


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

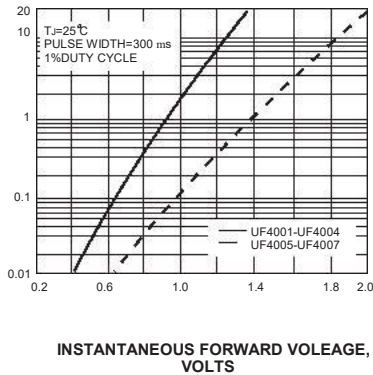


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

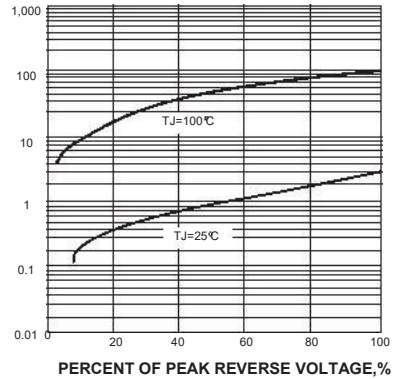


FIG. 5-TYPICAL JUNCTION CAPACITANCE

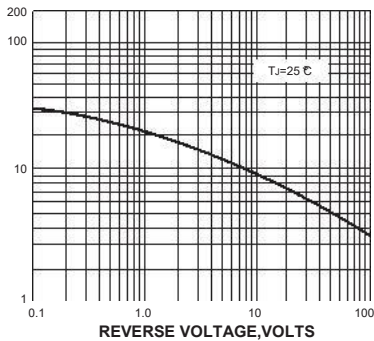


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

