



UF1000~UF1006

ULTRAFAST RECOVERY RECTIFIERS

VOLTAGE 50 to 600 Volts **CURRENT** 10.0 Amperes

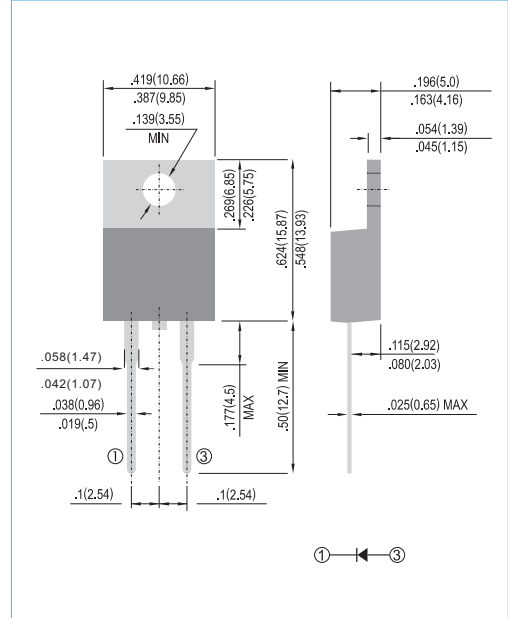
TO-220AC Unit: inch (mm)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency.
- Low forward voltage, high current capability
- High surge capacity.
- Ultra fast recovery time, high voltage.
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: TO-220AC full molded plastic package
- Terminals: Lead solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Standard packaging: Any
- Weight: 0.0655 ounces, 1.859 grams.



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| PARAMETER | SYMBOL | UF1000 | UF1001 | UF1002 | UF1003 | UF1004 | UF1006 | UNITS |
|---|-----------------|-------------|--------|--------|--------|--------|--------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Current at $T_C = 100^\circ\text{C}$ | $I_{F(AV)}$ | 10 | | | | | | A |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method) | I_{FSM} | 150 | | | | | | A |
| Maximum Forward Voltage at 10.0A | V_F | 1.0 | | 1.30 | | 1.70 | | V |
| Maximum DC Reverse Current $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_J=125^\circ\text{C}$ | I_R | 1.0 500 | | | | | | μA |
| Typical Junction Capacitance (Note 1) | C_J | 80 | | | | | 50 | pF |
| Maximum Reverse Recovery Time (Note 2) | t_{rr} | 50 | | | | | 100 | ns |
| Typical Thermal Resistance (Note 3) | $R_{\theta JC}$ | 2 | | | | | | $^\circ\text{C} / \text{W}$ |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | | $^\circ\text{C}$ |

NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
2. Reverse Recovery Test Conditions: $I_F=.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=25\text{A}$.
3. Thermal resistance from Junction to case.
4. Both Bonding and Chip structure are available.



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RATING AND CHARACTERISTIC CURVES

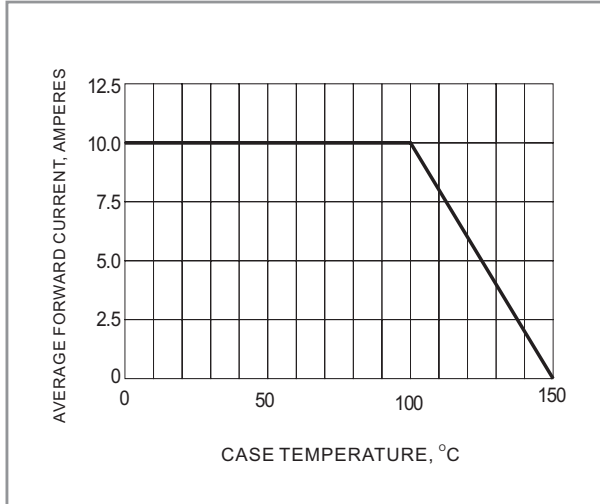


Fig.1 FORWARD CURRENT DERATING CURVE

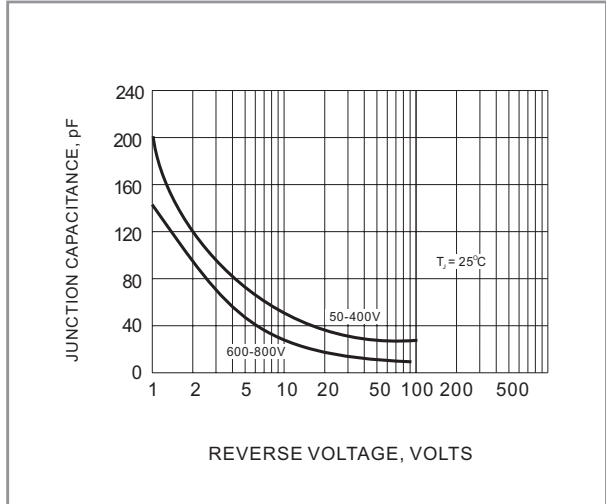


Fig.2 TYPICAL JUNCTION CAPACITANCES

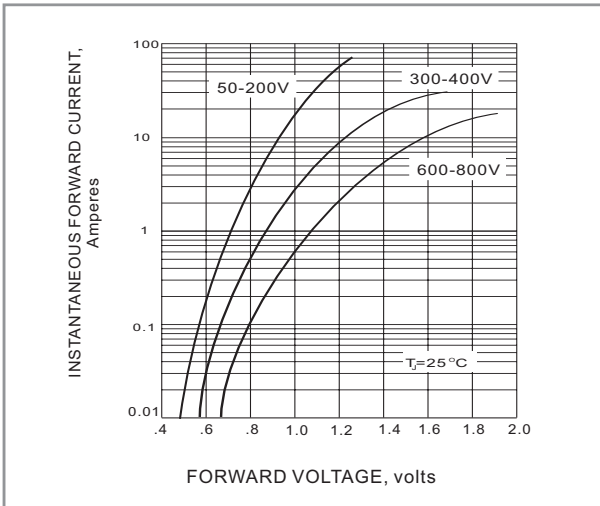


Fig.3 FORWARD CHARACTERISTICS

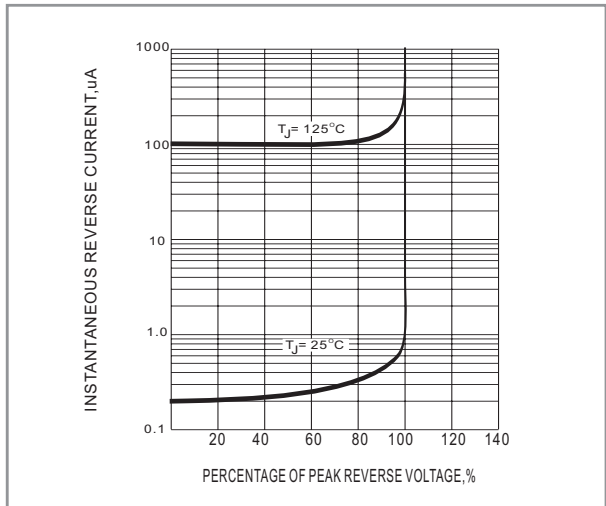


Fig.4 TYPICAL REVERSE CHARACTERISTICS

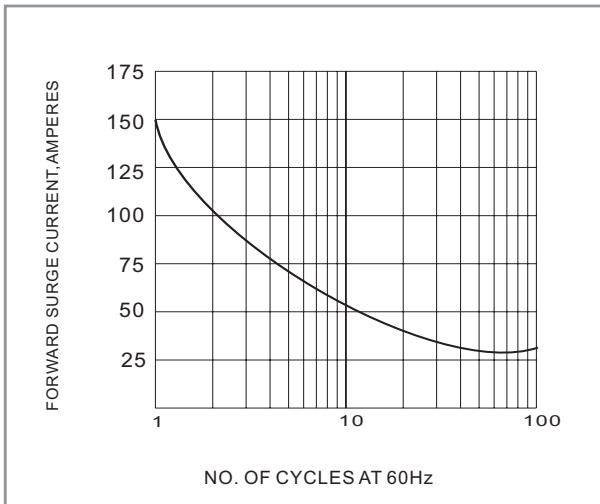


Fig.5 PEAK FORWARD SURGE CURRENT