

# DATA SHEET

## UF1000FCT~UF1008FCT

### ULTRAFAST RECOVERY RECTIFIERS

**VOLTAGE** 50 to 800 Volts **CURRENT** 10.0 Amperes

ITO-220AB

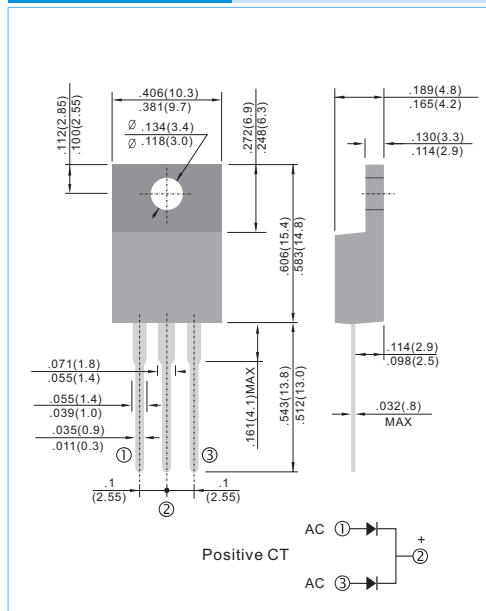
Unit : inch (mm)

#### 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.
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

Case: ITO-220AB full molded plastic package  
Terminals: Lead solderable per MIL-STD-202, Method 208  
Polarity: As marked.  
Standard packaging: Any  
Weight: 0.08 ounces, 2.24grams.



### 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                           | UF1000FCT   | UF1001FCT | UF1002FCT | UF1003FCT | UF1004FCT | UF1006FCT | UF1008FCT | UNITS |
|-------------------------------------------------------------------------------------------------------|----------------------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                | V <sub>RRM</sub>                 | 50          | 100       | 200       | 300       | 400       | 600       | 800       | V     |
| Maximum RMS Voltage                                                                                   | V <sub>RMS</sub>                 | 35          | 70        | 140       | 210       | 280       | 420       | 560       | V     |
| Maximum DC Blocking Voltage                                                                           | V <sub>DC</sub>                  | 50          | 100       | 200       | 300       | 400       | 600       | 800       | V     |
| Maximum Average Forward Current at T <sub>c</sub> = 100°C                                             | I <sub>AV</sub>                  | 10          |           |           |           |           |           |           | A     |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load (JEDEC method)     | I <sub>FSM</sub>                 | 125         |           |           |           |           |           |           | A     |
| Maximum Forward Voltage at 5.0A                                                                       | V <sub>F</sub>                   | 1.0         |           |           | 1.30      |           | 1.70      |           | V     |
| Maximum DC Reverse Current T <sub>A</sub> =25°C<br>at Rated DC Blocking Voltage T <sub>A</sub> =125°C | I <sub>R</sub>                   | 10<br>500   |           |           |           |           |           |           | μA    |
| Typical Junction Capacitance (Note 1)                                                                 | C <sub>J</sub>                   | 80          |           |           |           |           | 50        |           | pF    |
| Maximum Reverse Recovery Time (Note 2)                                                                | T <sub>RR</sub>                  | 50          |           |           |           |           | 100       |           | ns    |
| Typical Thermal Resistance (Note 3)                                                                   | RθJC                             | 2           |           |           |           |           |           |           | °C /W |
| Operating Junction and Storage Temperature Range                                                      | T <sub>J</sub> ,T <sub>STG</sub> | -50 to +150 |           |           |           |           |           |           | °C    |

#### NOTES:

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

## RATING AND CHARACTERISTIC CURVES

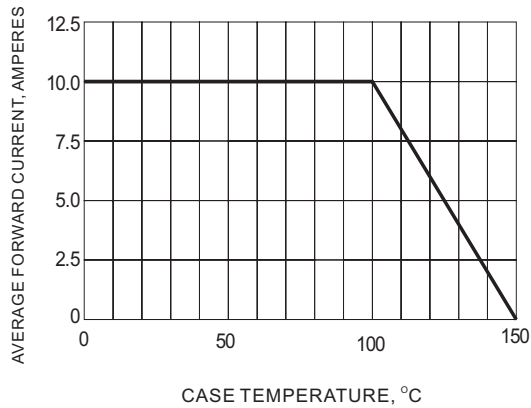


Fig.1 FORWARD CURRENT DERATING CURVE

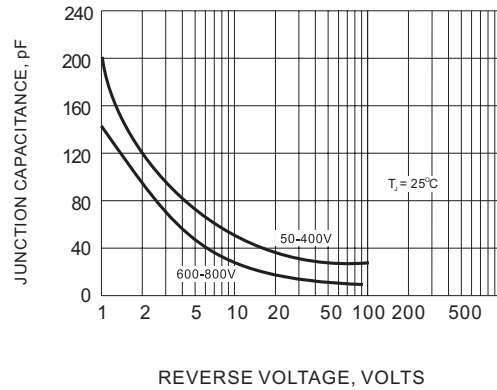


Fig.2 TYPICAL JUNCTION CAPACITANCES

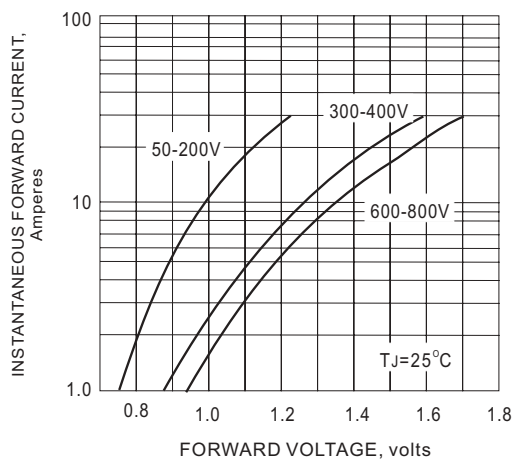


Fig.3 FORWARD CHARACTERISTICS

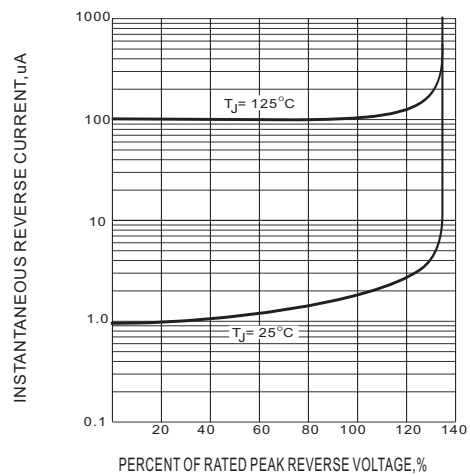


Fig.4 TYPICAL REVERSE CHARACTERISTICS

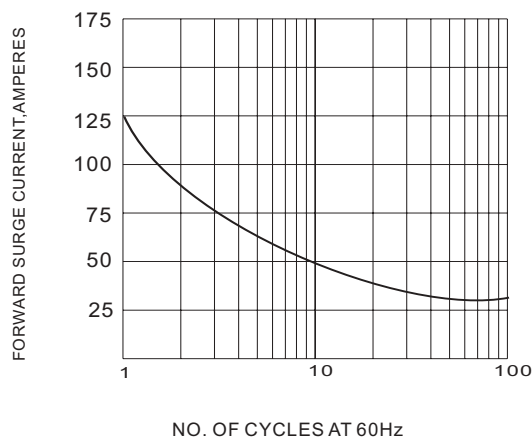


Fig.5 PEAK FORWARD SURGE CURRENT