

Switchmode Full Plastic Single Ultra-fast Power Rectifiers

Designed for use in switching power supplies, inverters and as free wheeling diodes. These state-of-the-art devices have the following features:

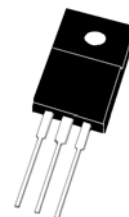
- * Low T_{RR}
- * High Surge Capacity
- * Low Power Loss, High efficiency
- * 175°C Operating Junction Temperature
- * Low Forward Voltage, High Frequency
- * High-Switching Speed 21(typ.) Nanosecond Recovery Time
- * Plastic Material used Carries Underwriters Laboratory



* In compliance with EU RoHs 2002/95/EC directives

**ULTRA FAST
RECTIFIERS**

**16 AMPERES
600 VOLTS**



ITO-220AB

MAXIMUM RATINGS

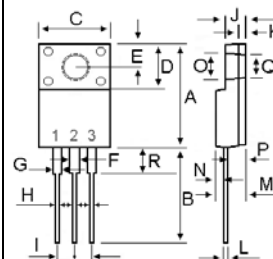
| Characteristic | Symbol | UFF16C 60 | Unit |
|--|---------------------------------|-------------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 600 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 420 | V |
| Average Rectifier Forward Current (per diode) Total Device (Rated V_R), $T_C=125^\circ\text{C}$ | $I_{F(AV)}$ | 8 16 | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz, $T_C=125^\circ\text{C}$) | I_{FM} | 8.0 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz) | I_{FSM} | 150 | A |
| Operating and Storage Junction Temperature Range | T_J , T_{stg} | -65 to +175 | $^\circ\text{C}$ |

THERMAL RESISTANCES

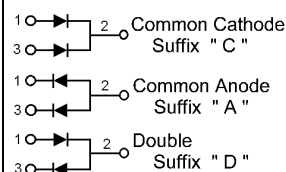
| | | | |
|---|-----------------|-----|---------------------------|
| Typical Thermal Resistance junction to case | $R_{\theta jc}$ | 4.2 | $^\circ\text{C}/\text{W}$ |
|---|-----------------|-----|---------------------------|

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min | Type | Max. | Unit |
|--|----------|-----|------|-----------|--------------------------------|
| Maximum Instantaneous Forward Voltage (per diode) ($I_F = 8 \text{ Amp}$ $T_C = 25^\circ\text{C}$) | V_F | -- | 1.85 | 2.2 | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ\text{C}$) (Rated DC Voltage, $T_C = 125^\circ\text{C}$) | I_R | -- | -- | 25 500 | μA μA |
| Reverse Recovery Time ($I_F = 0.5 \text{ A}$, $I_R = 1.0$, $I_{rr} = 0.25 \text{ A}$) | T_{rr} | -- | 20 | 25 | ns |



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 15.05 | 15.15 |
| B | 13.35 | 13.45 |
| C | 10.00 | 10.10 |
| D | 6.55 | 6.65 |
| E | 2.65 | 2.75 |
| F | 1.55 | 1.65 |
| G | 1.20 | 1.47 |
| H | 0.55 | 0.65 |
| I | 2.50 | 2.60 |
| J | 3.00 | 3.20 |
| K | 1.10 | 1.20 |
| L | 0.55 | 0.65 |
| M | 4.40 | 4.60 |
| N | 1.15 | 1.25 |
| O | 3.35 | 3.45 |
| P | 2.65 | 2.75 |
| Q | 3.15 | 3.25 |
| R | 3.60 | 3.80 |



UFF16C60

FIG-1 TYPICAL FORWARD CHARACTERISTICS

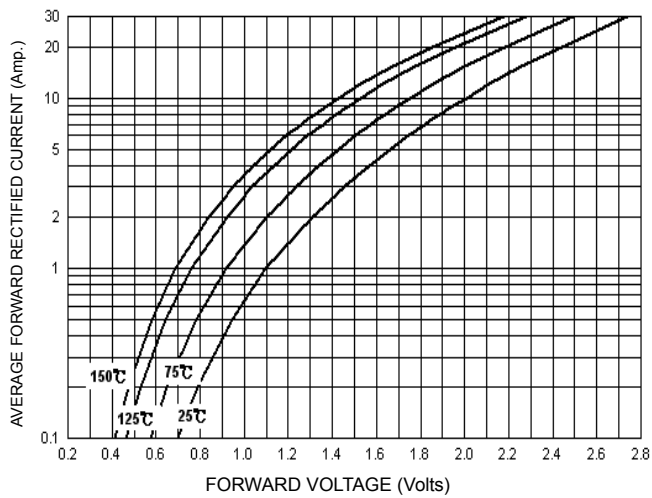


FIG-2 FORWARD CURRENT DERATING CURVE

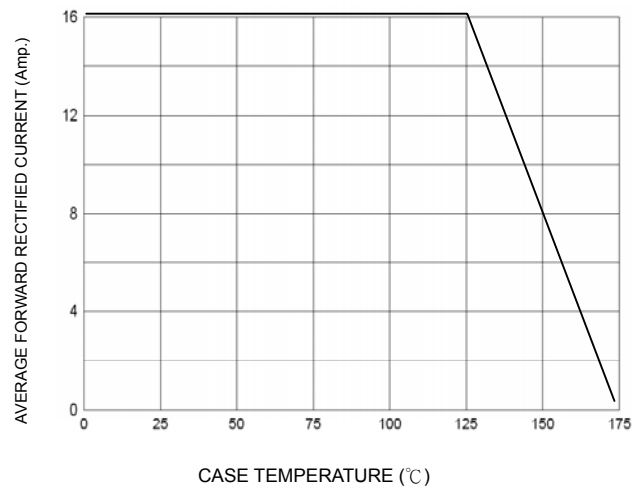


FIG-3 TYPICAL REVERSE CHARACTERISTICS

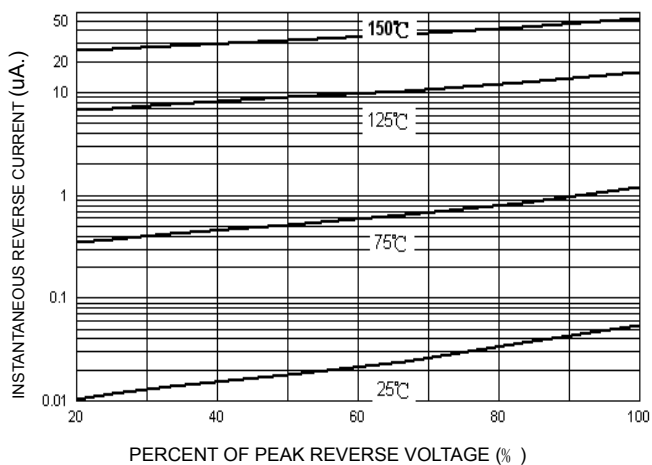
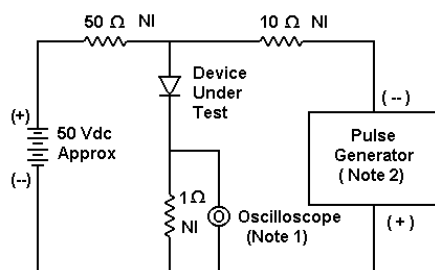
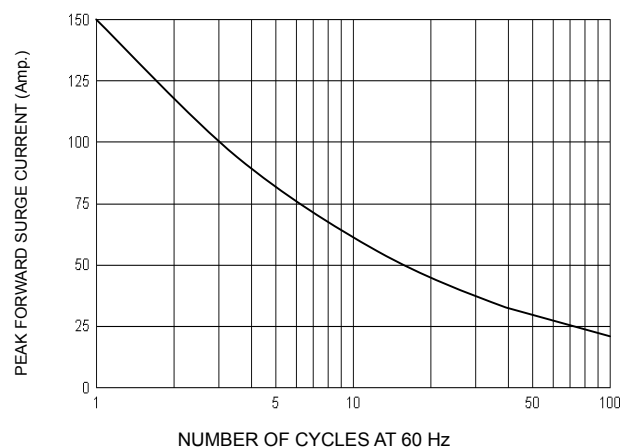
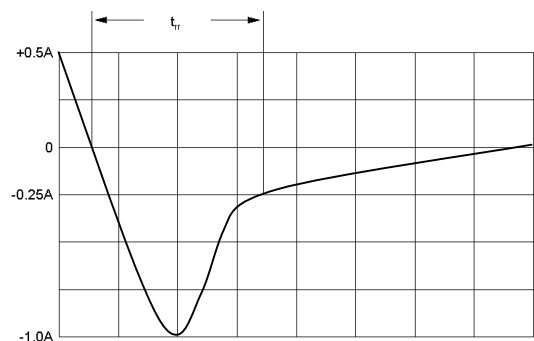


FIG-4 PEAK FORWARD SURGE CURRENT



- Notes:
1. Rise Time = 7 ns max. Input Impedance = 1 M Ω, 22 pF
 2. Rise Time = 10 ns max. Input Impedance = 50 Ω



Set time base for 10/20 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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