

Switchmode Full Plastic Dual Ultrafast Power Rectifiers

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

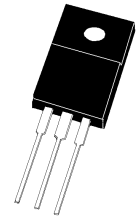
Features

- * High Surge Capacity
- * Low Power Loss, High efficiency
- * 150°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction
- * Low Forward Voltage , High Current Capability
- * High-Switching Speed Recovery Time
- * Plastic Material used Carries Underwriters Laboratory
- * Flammability Classification 94V-0
- * *Pb free*
- * *In compliance with EU RoHs directives*



**Ultrafast Power
RECTIFIERS**

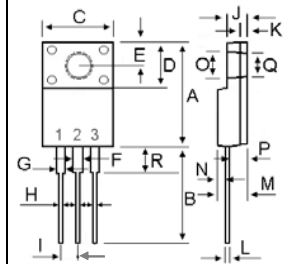
**16 AMPERES
600 VOLTS**



ITO-220AB

MAXIMUM RATINGS

| Characteristic | Symbol | UREF1660C | 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), $T_C=100^\circ\text{C}$ | $I_{F(AV)}$ | 8 16 | A |
| Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz, $T_C=125^\circ\text{C}$) | I_{FM} | 16 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz) | I_{FSM} | 100 | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.80 | 16.10 |
| B | 12.65 | 13.80 |
| C | 9.85 | 10.36 |
| D | 4.60 | 6.80 |
| E | 2.50 | 3.50 |
| F | 1.00 | 1.45 |
| G | 1.00 | 1.45 |
| H | 0.30 | 0.90 |
| I | 2.40 | 2.70 |
| J | 2.34 | 3.30 |
| K | 0.55 | 1.30 |
| L | 0.36 | 0.80 |
| M | 4.20 | 4.90 |
| N | 1.10 | 1.80 |
| O | 2.90 | 3.50 |
| P | 2.50 | 3.15 |
| Q | 2.90 | 3.50 |
| R | 3.10 | 4.85 |

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|-----------------|------|--------------|-------------|---------------------------|
| Maximum Instantaneous Forward Voltage ($I_F=8$ Amp $T_C=25^\circ\text{C}$) ($I_F=8$ Amp $T_C=125^\circ\text{C}$) | V_F | --- | 1.30 1.10 | 1.60 --- | 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 | --- | 0.01 5.0 | 10 --- | μA |
| Reverse Recovery Time ($I_F=0.5$ A, $I_R=1.0$, $I_{rr}=0.25$ A) | T_{rr} | --- | 26 | 50 | ns |
| Typical Thermal Resistance junction to case | $R_{\theta jc}$ | | 3.8 | | $^\circ\text{C}/\text{w}$ |
| Typical Junction Capacitance (Reverse Voltage of 4 volts & $f=1$ MHz) | C_P | | 29 | | pF |

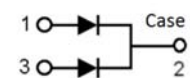


FIG-1 TYPICAL FORWARD CHARACTERISTICS

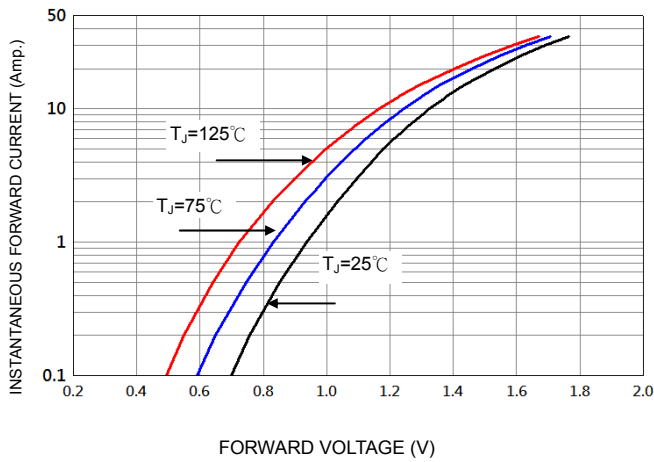


FIG-3 FORWARD CURRENT DERATING CURVE

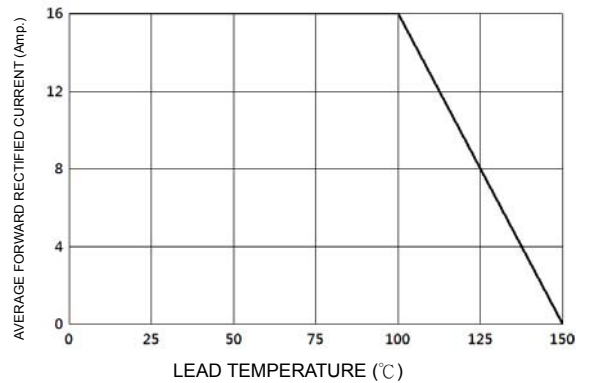


FIG-2 TYPICAL REVERSE CHARACTERISTICS

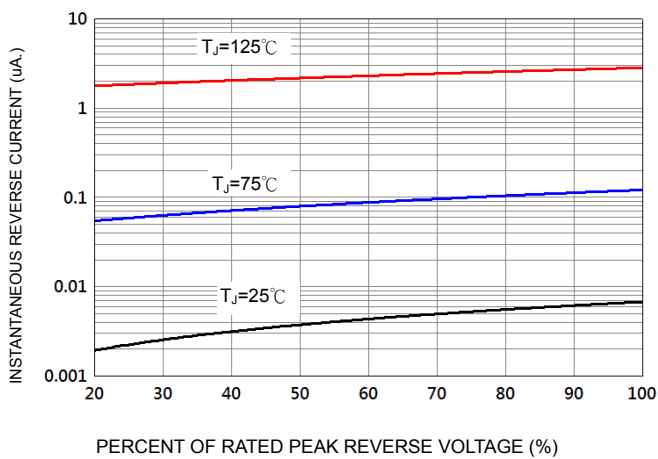


FIG-4 TYPICAL JUNCTION CAPACITANCE

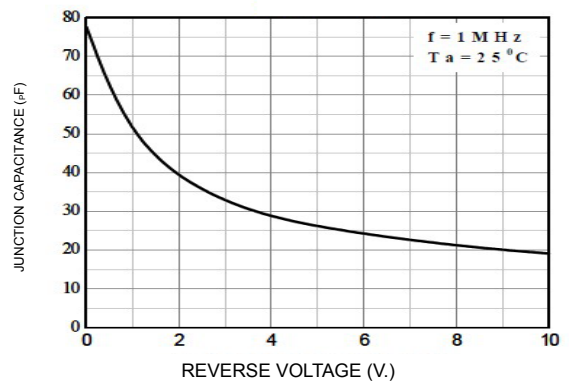
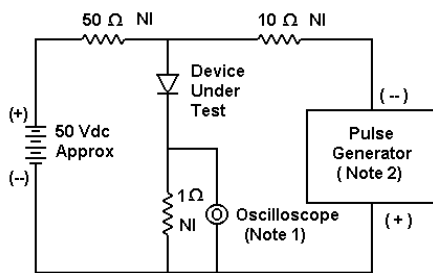
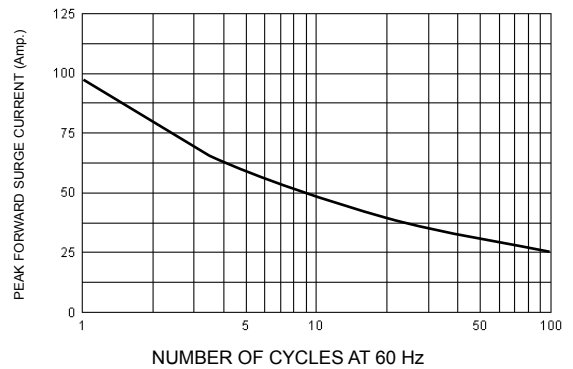
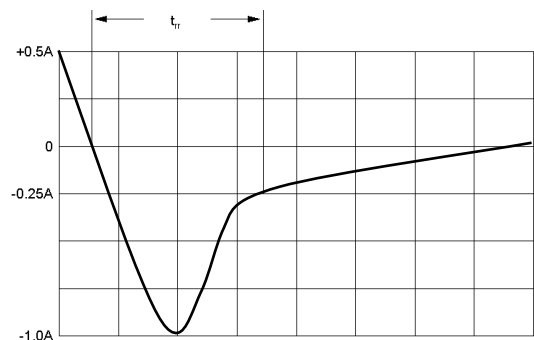


FIG-5 PEAK FORWARD SURGE CURRENT



- 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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