

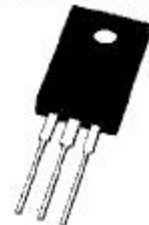
### Switchmode Full Plastic Dual Ultrafast Power Rectifiers

... 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
- \* Glass Passivated chip junctions
- \* 150 °C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction
- \* Low Forward Voltage, High Current Capability
- \* High-Switching Speed 35 Nanosecond Recovery Time
- \* Plastic Material used Carries Underwriters Laboratory

**ULTRA FAST  
RECTIFIERS**

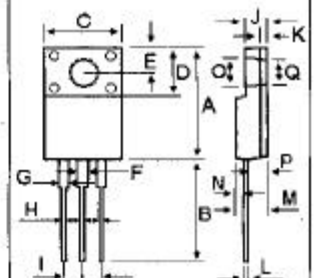
**20 AMPERES  
50 – 200 VOLTS**



ITO-220

#### MAXIMUM RATINGS

| Characteristic   | Symbol                          | URF20         |          |     |     | Unit |
|--|---------------------------------|---------------|----------|-----|-----|------|
|  |                                 | 05            | 10       | 15  | 20  |      |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                       | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50            | 100      | 150 | 200 | V    |
| RMS Reverse Voltage  | $V_{R(RMS)}$                    | 35            | 70       | 105 | 140 | V    |
| Average Rectifier Forward Current<br>Per Leg<br>Per Total Device<br>$T_c=125^\circ\text{C}$                  | $I_{F(AV)}$                     |               | 10<br>20 |     |     | A    |
| Peak Repetitive Forward Current<br>(Rate $V_R$ , Square Wave, 20kHz, $T_c=125^\circ\text{C}$ )               | $I_{FM}$                        |               | 20       |     |     | A    |
| Non-Repetitive Peak Surge Current<br>(Surge applied at rate load conditions<br>halfwave, single phase, 60Hz) | $I_{FSM}$                       |               | 150      |     |     | A    |
| Operating and Storage Junction<br>Temperature Range  | $T_J, T_{stg}$                  | - 65 to + 150 |          |     |     | °C   |



| 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   | 1.15        | 1.25  |
| 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  |
| P   | 2.65        | 2.75  |
| O   | 3.35        | 3.45  |
| Q   | 3.15        | 3.25  |

#### ELECTRICAL CHARACTERISTICS

| Characteristic   | Symbol   | URF20 |                |    |    | Unit |
|--|----------|-------|----------------|----|----|------|
|  |          | 05    | 10             | 15 | 20 |      |
| Maximum Instantaneous Forward Voltage<br>( $I_F=10$ Amp, $T_c=25^\circ\text{C}$ )<br>( $I_F=10$ Amp, $T_c=125^\circ\text{C}$ )       | $V_F$    |       | 0.975<br>0.880 |    |    | V    |
| Maximum Instantaneous Reverse Current<br>(Rated DC Voltage, $T_c=25^\circ\text{C}$ )<br>(Rated DC Voltage, $T_c=125^\circ\text{C}$ ) | $I_R$    |       | 10<br>500      |    |    | µA   |
| Reverse Recovery Time<br>( $I_F=0.5$ A, $I_R=1.0$ , $I_r=0.25$ A)  | $T_{rr}$ |       | 35             |    |    | ns   |
| Typical Junction Capacitance<br>(Reverse Voltage of 4 volts & $f=1$ MHz)   | $C_p$    |       | 120            |    |    | pF   |

