



## SWITCHMODE ULTRAFAST POWER RECTIFIER

### DESCRIPTION

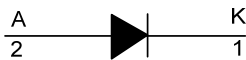
The UTC **UMUR2020** is a switchmode ultrafast power rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high surge capacity, etc.

The UTC **UMUR2020** is suitable for instrumentation and power management, etc

### FEATURES

- \* Low forward voltage drop
- \* High efficiency
- \* Low power loss
- \* High surge capacity

### SYMBOL

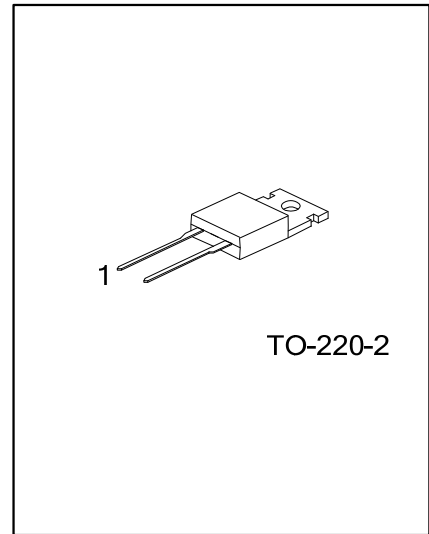


### ORDERING INFORMATION

| Ordering Number |                 | Package  | Pin Assignment |   |    | Packing |
|-----------------|-----------------|----------|----------------|---|----|---------|
| Lead Free       | Halogen Free    |          | 1              | 2 | 3  |         |
| UMUR2020L-TA2-T | UMUR2020G-TA2-T | TO-220-2 | K              | A | NC | Tube    |

Note: Pin Assignment: A: Anode, K: Cathode

|                                                                                                                                                          |                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <div>UMUR2020L-TA2-T</div> <div><div></div><div></div><div></div></div> <div>(1)Packing Type</div> <div>(2)Package Type</div> <div>(3)Halogen Free</div> | <div>(1) T: Tube</div> <div>(2) TA2: TO-220-2</div> <div>(3) L: Lead Free, G: Halogen Free</div> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|



## ■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER                                                                                               | SYMBOL      | RATINGS  | UNIT               |
|---------------------------------------------------------------------------------------------------------|-------------|----------|--------------------|
| DC Blocking Voltage                                                                                     | $V_R$       | 200      | V                  |
| Working Peak Reverse Voltage                                                                            | $V_{RWM}$   | 200      | V                  |
| Peak Repetitive Reverse Voltage                                                                         | $V_{RRM}$   | 200      | V                  |
| Average Rectified Forward Voltage (Rated $V_R$ , $T_C=125^{\circ}\text{C}$ )                            | $I_{F(AV)}$ | 20       | A                  |
| Peak Repetitive Forward Current (Rated $V_R$ , $T_C=125^{\circ}\text{C}$ )                              | $I_{FRM}$   | 40       | A                  |
| Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60Hz) | $I_{FSM}$   | 250      | A                  |
| Operating Junction Temperature                                                                          | $T_J$       | -65~+175 | $^{\circ}\text{C}$ |
| Storage Temperature                                                                                     | $T_{STG}$   | -65~+175 | $^{\circ}\text{C}$ |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.  
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

## ■ THERMAL CHARACTERISTICS

| PARAMETER           | SYMBOL        | RATINGS | UNIT                 |
|---------------------|---------------|---------|----------------------|
| Junction to Case    | $\theta_{JC}$ | 2.0     | $^{\circ}\text{C/W}$ |
| Junction to Ambient | $\theta_{JA}$ | 70      | $^{\circ}\text{C/W}$ |

## ■ ELECTRICAL CHARACTERISTICS

| PARAMETER                              | SYMBOL   | TEST CONDITIONS                                     | MIN | TYP   | MAX | UNIT          |
|----------------------------------------|----------|-----------------------------------------------------|-----|-------|-----|---------------|
| Instantaneous Forward Voltage (Note 1) | $V_F$    | $I_F=20\text{A}$ , $T_J=25^{\circ}\text{C}$         |     | 0.97  | 1.1 | V             |
|                                        |          | $I_F=20\text{A}$ , $T_J=150^{\circ}\text{C}$        |     | 0.79  | 1.0 | V             |
| Instantaneous Reverse Current (Note 1) | $I_R$    | Rated DC Voltage, $T_J=25^{\circ}\text{C}$          |     | 0.1   | 50  | $\mu\text{A}$ |
|                                        |          | Rated DC Voltage, $T_J=150^{\circ}\text{C}$         |     | 0.225 | 1.0 | mA            |
| Reverse Recovery Time                  | $t_{RR}$ | $I_F=1.0\text{A}$ , $di/dt=50\text{A}/\mu\text{s}$  |     |       | 95  | ns            |
|                                        |          | $I_F=1.0\text{A}$ , $di/dt=100\text{A}/\mu\text{s}$ |     |       | 75  | ns            |

Note: Pulse Test: Pulse Width=5.0ms, Duty Cycle≤10%

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