



**MGBR10L120**

Preliminary

**DIODE**

**DUAL MOS GATED BARRIER RECTIFIER**

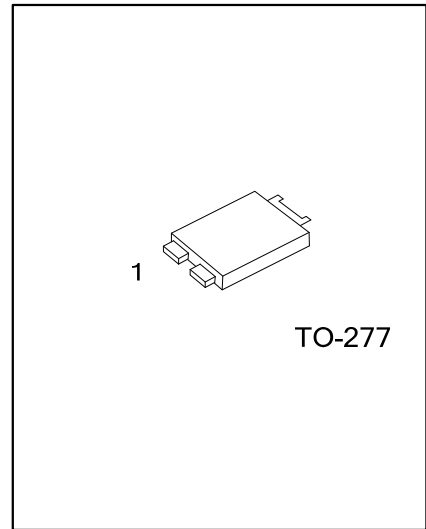
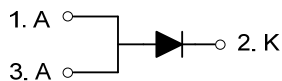
■ DESCRIPTION

The UTC **MGBR10L120** is a dual mos gated barrier rectifiers, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

■ FEATURES

- \* Low forward voltage drop
- \* High switching speed

■ SYMBOL



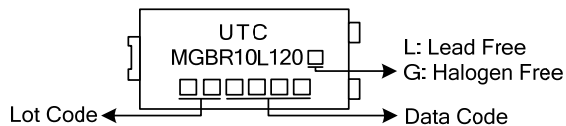
■ ORDERING INFORMATION

| Ordering Number   |                   | Package | Pin Assignment |   |   | Packing   |
|-------------------|-------------------|---------|----------------|---|---|-----------|
| Lead Free         | Halogen Free      |         | 1              | 2 | 3 |           |
| MGBR10L120L-T27-R | MGBR10L120G-T27-R | TO-277  | A              | K | A | Tape Reel |

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

|                          |   |
|--------------------------|---|
| <p>MGBR10L120L-T27-R</p> | <p>(1) R: Tape Reel</p> <p>(2) T27: TO-227</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p> |
|--------------------------|---|

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

| PARAMETER  | SYMBOL    | RATINGS  | UNIT             |
|--|-----------|----------|------------------|
| DC Blocking Voltage  | $V_{RM}$  | 120      | V                |
| Working Peak Reverse Voltage   | $V_{RWM}$ | 120      | V                |
| Peak Repetitive Reverse Voltage  | $V_{RRM}$ | 120      | V                |
| Average Rectified Output Current   | $I_O$     | 10       | A                |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 160      | A                |
| Operating Junction Temperature   | $T_J$     | -65~+150 | $^\circ\text{C}$ |
| Storage Temperature  | $T_{STG}$ | -65~+150 | $^\circ\text{C}$ |

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 Ambient | $\theta_{JA}$ | 73      | $^\circ\text{C}/\text{W}$ |
| Junction to Case    | $\theta_{JC}$ | 13      | $^\circ\text{C}/\text{W}$ |

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$  unless otherwise specified)

| PARAMETER                          | SYMBOL      | TEST CONDITIONS                          | MIN | TYP | MAX  | UNIT          |
|------------------------------------|-------------|--|-----|-----|------|---------------|
| Reverse Breakdown Voltage (Note 1) | $V_{(BR)R}$ | $I_R=0.50\text{mA}$                      | 120 |     |      | V             |
| Forward Voltage Drop               | $V_{FM}$    | $I_F=10\text{A}, T_J=25^\circ\text{C}$   |     |     | 0.82 | V             |
|                                    |             | $I_F=10\text{A}, T_J=125^\circ\text{C}$  |     |     | 0.70 | V             |
| Leakage Current (Note 1)           | $I_{RM}$    | $V_R=120\text{V}, T_J=25^\circ\text{C}$  |     |     | 400  | $\mu\text{A}$ |
|                                    |             | $V_R=120\text{V}, T_J=125^\circ\text{C}$ |     |     | 30   | mA            |

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

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