



**MGBR15U50**

Preliminary

**DIODE**

**MOS GATED BARRIER RECTIFIER**

■ DESCRIPTION

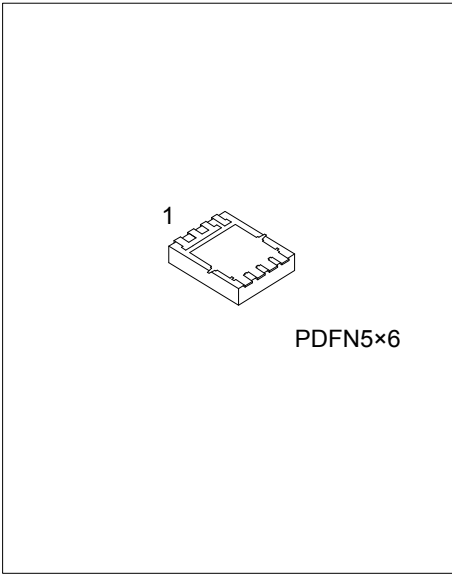
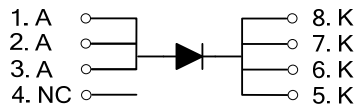
The UTC **MGBR15U50** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed etc.

The UTC **MGBR15U50** suitable for supply applications.

■ FEATURES

- \* Ultra low forward voltage drop
- \* High switching speed

■ SYMBOL



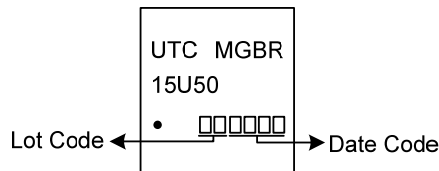
■ ORDERING INFORMATION

| Ordering Number    |                    | Package | Pin Assignment |   |   |    |   |   |   |   | Packing   |
|--------------------|--------------------|---------|----------------|---|---|----|---|---|---|---|-----------|
| Lead Free          | Halogen Free       |         | 1              | 2 | 3 | 4  | 5 | 6 | 7 | 8 |           |
| MGBR15U50L-P5060-R | MGBR15U50G-P5060-R | PDFN5x6 | A              | A | A | NC | K | K | K | K | Tape Reel |

Note: Pin Assignment: A: Anode K: Common Cathode NC: No Comment

|   |  |
|---|--|
| <p>MGBR15U50G-P5060-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p> | <p>(1) R: Tape Reel</p> <p>(2) P5060: PDFN5x6</p> <p>(3) G: Halogen Free and Lead Free, L: 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  | $V_{RM}$  | 50         | V                  |
| Working Peak Reverse Voltage   | $V_{RWM}$ | 50         | V                  |
| Peak Repetitive Reverse Voltage  | $V_{RRM}$ | 50         | V                  |
| Average Rectified Output Current   | $I_O$     | 15         | A                  |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 200        | 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 (PER LEG)

| PARAMETER                  | SYMBOL        | RATINGS | UNIT                        |
|----------------------------|---------------|---------|-----------------------------|
| Typical Thermal Resistance | $\theta_{JA}$ | 72      | $^{\circ}\text{C}/\text{W}$ |

Note: FR-4 PCB, 2 oz Copper. Minimum recommended pad layout.

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

| PARAMETER                 | SYMBOL      | TEST CONDITIONS                           | MIN | TYP | MAX  | UNIT          |
|---------------------------|-------------|---|-----|-----|------|---------------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R=0.5\text{mA}$                        | 50  |     |      | V             |
| Forward Voltage Drop      | $V_{FM}$    | $I_F=15\text{A}, T_J=25^{\circ}\text{C}$  |     |     | 0.45 | V             |
|                           |             | $I_F=15\text{A}, T_J=125^{\circ}\text{C}$ |     |     | 0.41 | V             |
| Leakage Current           | $I_{RM}$    | $V_R=50\text{V}, T_J=25^{\circ}\text{C}$  |     |     | 500  | $\mu\text{A}$ |
|                           |             | $V_R=50\text{V}, T_J=125^{\circ}\text{C}$ |     |     | 25   | mA            |

Note: Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$ .

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