



# MGBR10L60C

**DIODE**

## DUAL MOS GATED BARRIER RECTIFIER

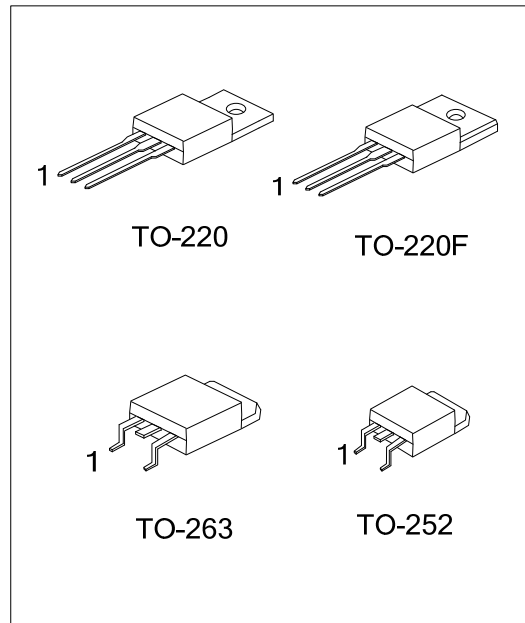
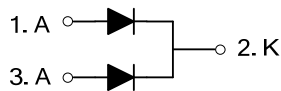
### DESCRIPTION

The UTC **MGBR10L60C** 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 |           |
| MGBR10L60CL-TA3-T | MGBR10L60CG-TA3-T | TO-220  | A              | K | A | Tube      |
| MGBR10L60CL-TF3-T | MGBR10L60CG-TF3-T | TO-220F | A              | K | A | Tube      |
| MGBR10L60CL-TN3-R | MGBR10L60CG-TN3-R | TO-252  | A              | K | A | Tape Reel |
| MGBR10L60CL-TQ2-T | MGBR10L60CG-TQ2-T | TO-263  | A              | K | A | Tube      |
| MGBR10L60CL-TQ2-R | MGBR10L60CG-TQ2-R | TO-263  | A              | K | A | Tape Reel |

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

|  |  |
|--|--|
| <p>MGBR10L60CL-TA3-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p> | <p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA3: TO-220, TF3: TO-220F, TN3: TO-252</p> <p>TQ2: TO-263</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p> |
|--|--|

### MARKING

| TO-220 / TO-220F / TO-263  | TO-252   |
|--|--|
| <p>UTC MGBR10L60C</p> <p>Lot Code ← → Data Code</p> <p>1</p> <p>L: Lead Free<br/>G: Halogen Free</p> | <p>UTC MGBR10L60C</p> <p>Lot Code ← → Data Code</p> <p>1</p> <p>L: Lead Free<br/>G: Halogen Free</p> |

■ ABSOLUTE MAXIMUM RATINGS (PER LEG) (T<sub>A</sub>=25°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 <sub>RM</sub>  | 60       | V    |
| Working Peak Reverse Voltage  |         | V <sub>RWM</sub> | 60       | V    |
| Peak Repetitive Reverse Voltage   |         | V <sub>RRM</sub> | 60       | V    |
| Average Rectified Forward Current<br>(Rated VR-20KHz Square Wave) – 50%<br>duty cycle               | Per Leg | I <sub>o</sub>   | 5        | A    |
|   | Total   |                  | 10       | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single<br>Half Sine-Wave Superimposed on Rated Load |         | I <sub>FSM</sub> | 120      | A    |
| Peak Repetitive Reverse Surge Current (2μS-1kHz)  |         | I <sub>RRM</sub> | 2        | A    |
| Operating Junction Temperature  |         | T <sub>J</sub>   | -65~+150 | °C   |
| Storage Temperature   |         | T <sub>STG</sub> | -65~+150 | °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)

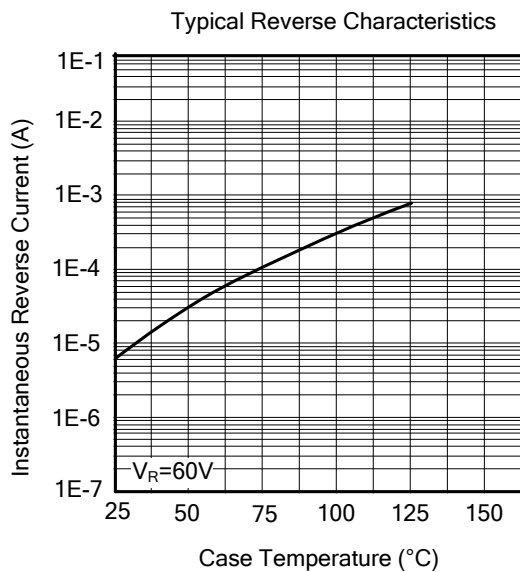
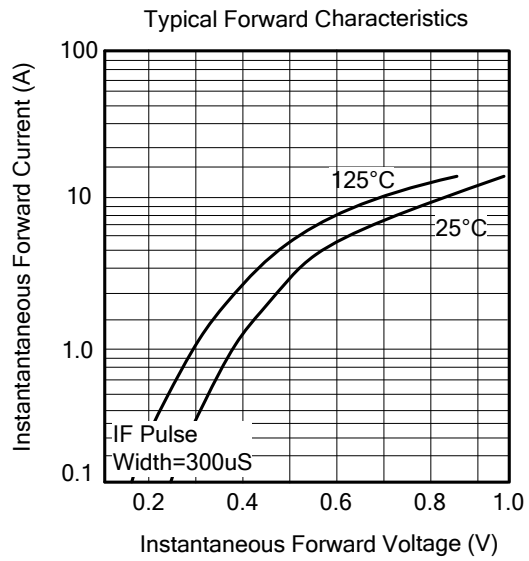
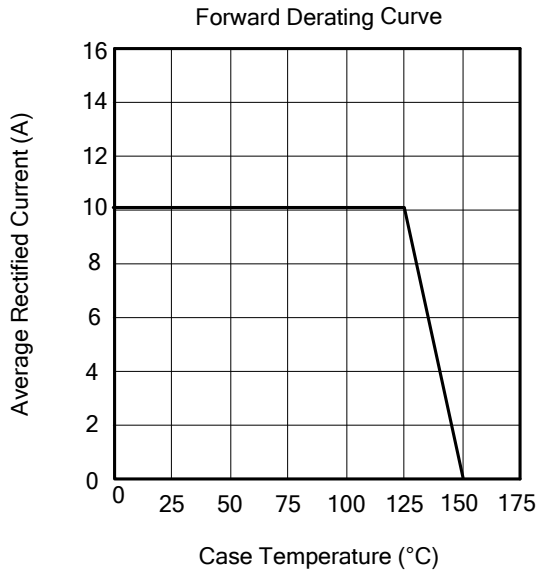
| PARAMETER           |                | SYMBOL          | RATINGS | UNIT |
|---------------------|----------------|-----------------|---------|------|
| Junction to Ambient | TO-220/TO-220F | θ <sub>JA</sub> | 62.5    | °C/W |
|                     | TO-252         |                 | 110     |      |
|                     | TO-263         |                 | 62.5    |      |
| Junction to Case    | TO-220         | θ <sub>JC</sub> | 2       | °C/W |
|                     | TO-220F        |                 | 3.31    |      |
|                     | TO-252         |                 | 2.5     |      |
|                     | TO-263         |                 | 2       |      |

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified.)

| PARAMETER                          | SYMBOL             | TEST CONDITIONS                            | MIN | TYP | MAX  | UNIT |
|------------------------------------|--------------------|--|-----|-----|------|------|
| Reverse Breakdown Voltage (Note 1) | V <sub>(BR)R</sub> | I <sub>R</sub> =0.50mA                     | 60  |     |      | V    |
| Forward Voltage Drop               | V <sub>FM</sub>    | I <sub>F</sub> =5A, T <sub>J</sub> =25°C   |     |     | 0.63 | V    |
|                                    |                    | I <sub>F</sub> =5A, T <sub>J</sub> =125°C  |     |     | 0.58 | V    |
| Leakage Current (Note 1)           | I <sub>RM</sub>    | V <sub>R</sub> =60V, T <sub>J</sub> =25°C  |     | 50  | 300  | μA   |
|                                    |                    | V <sub>R</sub> =60V, T <sub>J</sub> =125°C |     | 15  | 50   | mA   |

Notes: 1. Short duration pulse test used to minimize self-heating effect.  
2. Thermal resistance junction to case mounted on heatsink.

■ TYPICAL CHARACTERISTICS



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