



MGBR30V50C

DIODE

DUAL MOS GATED BARRIER RECTIFIERS

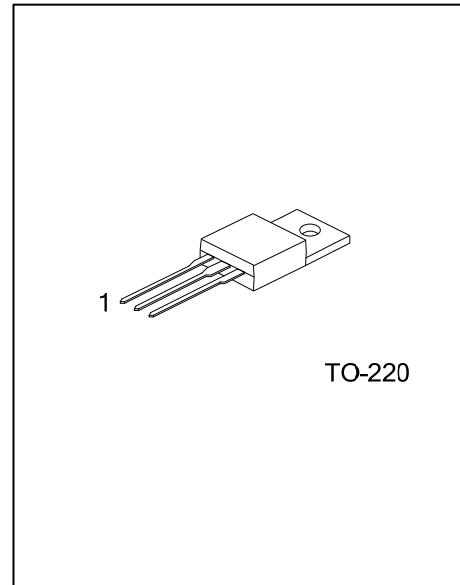
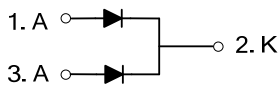
DESCRIPTION

The UTC **MGBR30V50C** 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

- * Very low forward voltage drop
- * High switching speed

SYMBOL



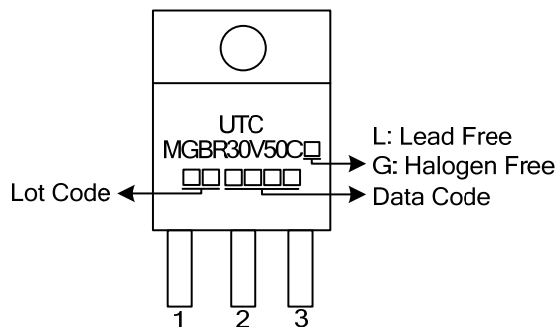
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-------------------|-------------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| MGBR30V50CL-TA3-T | MGBR30V50CG-TA3-T | TO-220 | A | K | A | Tube |

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

| | |
|---|--|
| <p>MGBR30V50CL-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p> | <p>(1) T: Tube (2) TA3: TO-220 (3) L: Lead Free, G: Halogen Free</p> |
|---|--|

MARKING INFORMATION



■ ABSOLUTE MAXIMUM RATINGS (PER LEG) ($T_A=25^\circ\text{C}$ 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 Per Device | Per Leg | 15 | A |
| | Total | 30 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 250 | 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 |
|------------------|---------------|---------|--------------------|
| Junction to Case | θ_{JC} | 2 | $^\circ\text{C/W}$ |

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

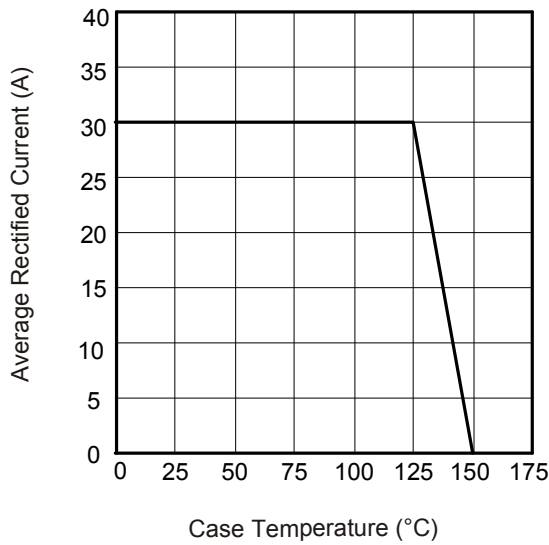
| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|------------------------------------|-------------|---|-----|-----|------|---------------|
| Reverse Breakdown Voltage (Note 1) | $V_{(BR)R}$ | $I_R=0.50\text{mA}$ | 50 | | | V |
| Forward Voltage Drop | V_{FM} | $I_F=15\text{A}, T_J=25^\circ\text{C}$ | | | 0.55 | V |
| | | $I_F=15\text{A}, T_J=125^\circ\text{C}$ | | | 0.50 | V |
| Leakage Current (Note 1) | I_{RM} | $V_R=50\text{V}, T_J=25^\circ\text{C}$ | | | 500 | μA |
| | | $V_R=50\text{V}, T_J=125^\circ\text{C}$ | | | 100 | mA |

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

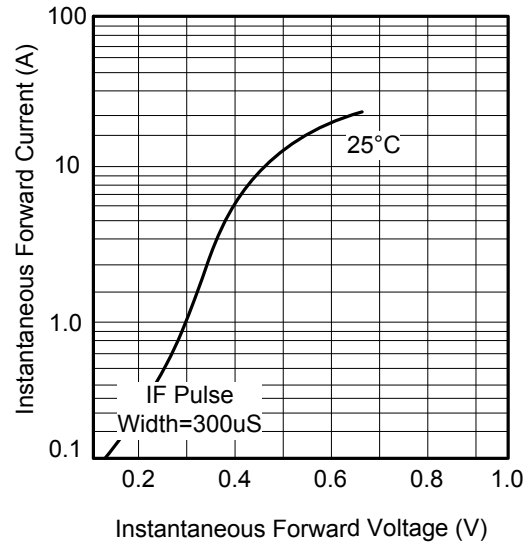
2. Thermal resistance junction to case mounted on heatsink.

■ TYPICAL CHARACTERISTICS

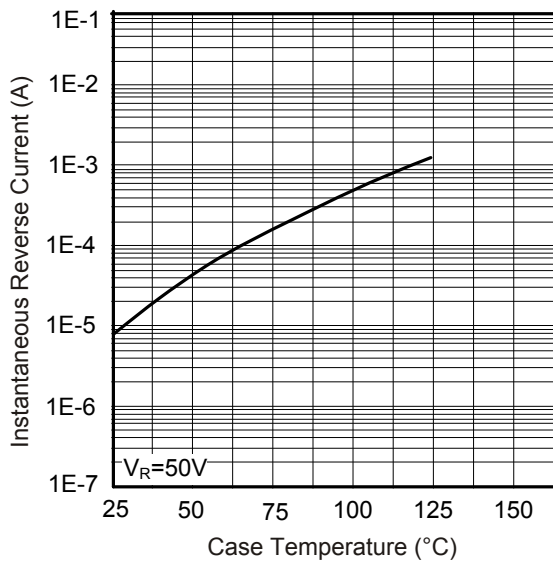
Forward Derating Curve



Typical Forward Characteristics



Typical Reverse Characteristics



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