



MGBR20V50C

Preliminary

DIODE

DUAL MOS GATED BARRIER RECTIFIER

■ DESCRIPTION

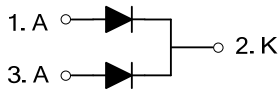
The UTC **MGBR20V50C** is a dual mos gated barrier rectifiers, it uses UT C's advanc ed tech nology to pro vide custom ers with lo w forward voltage drop and high switching speed, etc.

The UTC **MGBR20V50C** suitable for supply applications.

■ FEATURES

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

■ SYMBOL



■ ORDERING INFORMATION

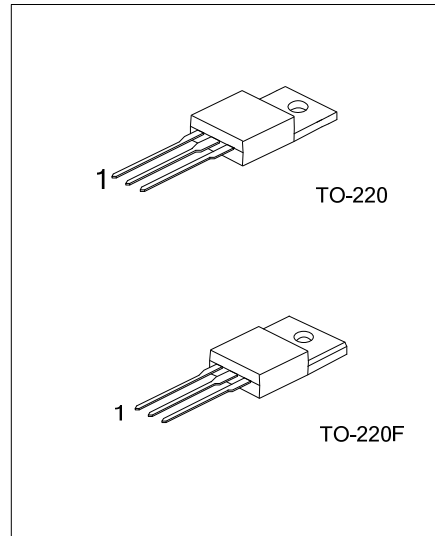
| Ordering Number | | Package | Pin Assignment | | | Packing |
|-------------------|-------------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| MGBR20V50CL-TA3-T | MGBR20V50CG-TA3-T | TO-220 | A | K | A | Tube |
| MGBR20V50CL-TF3-T | MGBR20V50CG-TF3-T | TO-220F | A | K | A | Tube |

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

| | |
|--------------------------|--------------------------------------------------------------------------------------------------|
| <p>MGBR20V50CL-TA3-T</p> | <p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF3: TO-220F</p> <p>(3) L: Lead Free, G: Halogen Free</p> |
|--------------------------|--------------------------------------------------------------------------------------------------|

■ MARKING INFORMATION

| PACKAGE MARKING | |
|---------------------------|--|
| <p>TO-220 TO-220F</p> | |



■ 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 Forward Current (Rated VR-20Khz Square Wave) - 50% Duty Cycle | Per Leg | I_O | 10 A | |
| | Total 2 | | 0 | A |
| Peak Forward Surge Current - 1/2 60hz | | I_{FSM} | 150 | A |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | | I_{RRM} | 2 | A |
| Maximum Rate of Voltage Change (at Rated V_R) | | dv/dt | 10000 | V/ μ S |
| Operating Junction Temperature | | T_J | -65~+150 | $^{\circ}\text{C}$ |
| Storage Junction 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 Case | θ_{JC} | 2 | $^{\circ}\text{C}/\text{W}$ |

■ 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 | V_{FM} | $I_F=10\text{A}$, $T_J=25^{\circ}\text{C}$ | | | 0.55 | V |
| | | $I_F=10\text{A}$, $T_J=125^{\circ}\text{C}$ | | | 0.50 | V |
| Reverse 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.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.