



MGBR30V120C

Preliminary

DIODE

DUAL MOS GATED BARRIER RECTIFIER

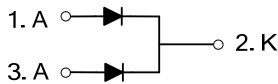
■ DESCRIPTION

The UTC **MGBR30V120C** 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



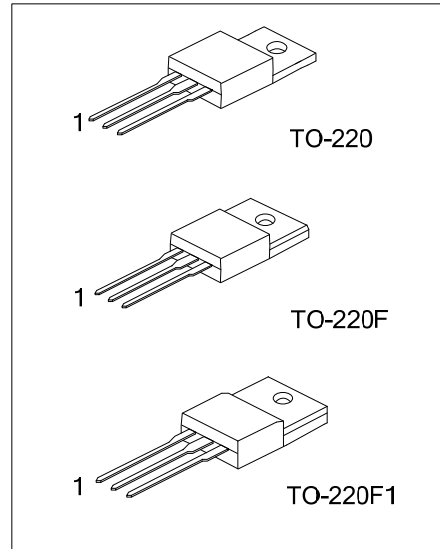
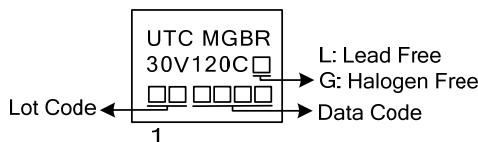
■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|--------------------|--------------------|----------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| MGBR30V120CL-TA3-T | MGBR30V120CG-TA3-T | TO-220 | A | K | A | Tube |
| MGBR30V120CL-TF1-T | MGBR30V120CG-TF1-T | TO-220F1 | A | K | A | Tube |
| MGBR30V120CL-TF3-T | MGBR30V120CG-TF3-T | TO-220F | A | K | A | Tube |

Note: Pin Assignment: A: Anode K: Cathode

| | |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <p>MGBR30V120CL-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p> | <p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF1: TO-220F1, TF3: TO-220F</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 Per Device | Per Leg | I_o | 15 | A |
| | Total | | 30 | 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 | TO-220 | θ_{JC} | 2 | $^{\circ}\text{C}/\text{W}$ |
| | TO-220F | | 4 | |
| | TO-220F1 | | | |

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

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------------|-------------|--------------------------------------------|-----|-----|------|---------------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R=0.50\text{mA}$ | 120 | | | V |
| Forward Voltage Drop | V_{FM} | $I_F=15\text{A}, T_J=25^{\circ}\text{C}$ | | | 0.83 | V |
| | | $I_F=15\text{A}, T_J=125^{\circ}\text{C}$ | | | 0.78 | V |
| Leakage Current | I_{RM} | $V_R=120\text{V}, T_J=25^{\circ}\text{C}$ | | | 100 | μA |
| | | $V_R=120\text{V}, T_J=125^{\circ}\text{C}$ | | | 20 | mA |

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

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