



TGBR30V60

Preliminary

DIODE

TRENCH MOS SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

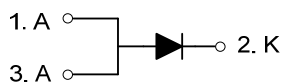
The UTC **TGBR30V60** is a trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **TGBR30V60** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

FEATURES

- * Ultra low forward voltage drop
- * High current capability
- * High surge capability
- * High efficiency

SYMBOL



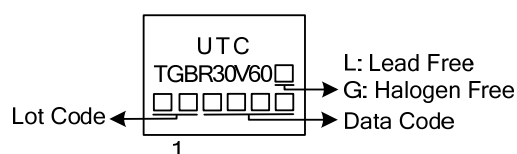
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|------------------|------------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| TGBR30V60L-TA3-T | TGBR30V60G-TA3-T | TO-220 | A | K | A | Tube |
| TGBR30V60L-TF3-T | TGBR30V60G-TF3-T | TO-220F | A | K | A | Tube |

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

| | |
|--|--|
| <p>TGBR30V60G-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, TF3: TO-220F</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} | 60 | V |
| Working Peak Reverse Voltage | V_{RWM} | 60 | V |
| Peak Repetitive Reverse Voltage | V_{RRM} | 60 | V |
| Average Rectified Output Current $T_C=125^{\circ}\text{C}$ | I_O | 30 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I_{FSM} | 220 | A |
| Operating Junction Temperature | T_J | $-65 \sim +150$ | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | $-65 \sim +150$ | $^{\circ}\text{C}$ |

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 | θ_{JC} | 2 | $^{\circ}\text{C}/\text{W}$ |
| | | 4 | $^{\circ}\text{C}/\text{W}$ |

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

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------------|-------------|---|-----|------|------|---------------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R=0.5\text{mA}$ | 60 | | | V |
| Forward Voltage Drop | V_{FM} | $I_F=5\text{A}, T_J=25^{\circ}\text{C}$ | | 0.42 | | V |
| | | $I_F=5\text{A}, T_J=125^{\circ}\text{C}$ | | 0.30 | | V |
| | | $I_F=15\text{A}, T_J=25^{\circ}\text{C}$ | | 0.49 | | V |
| | | $I_F=15\text{A}, T_J=125^{\circ}\text{C}$ | | 0.40 | | V |
| | | $I_F=30\text{A}, T_J=25^{\circ}\text{C}$ | | 0.55 | 0.60 | V |
| | | $I_F=30\text{A}, T_J=125^{\circ}\text{C}$ | | 0.48 | 0.55 | V |
| Leakage Current | I_{RM} | $V_R=60\text{V}, T_J=25^{\circ}\text{C}$ | | 20 | 300 | μA |
| | | $V_R=60\text{V}, T_J=125^{\circ}\text{C}$ | | 10 | 100 | mA |

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

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