

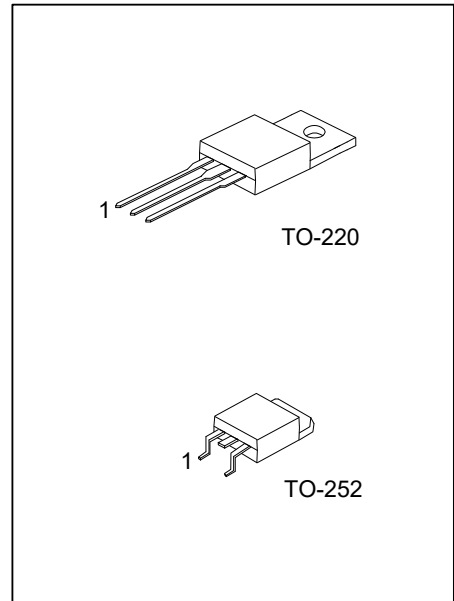


## TGBR20S80C

Preliminary

DIODE

### DUAL TRENCH MOS SCHOTTKY BARRIER RECTIFIER



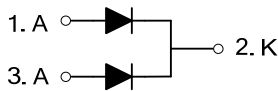
#### DESCRIPTION

The UTC **TGBR20S80C** is a dual trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

#### FEATURES

- \* Super low forward voltage drop
- \* High switching speed

#### SYMBOL



#### ORDERING INFORMATION

| Ordering Number   |                   | Package | Pin Assignment |   |   | Packing   |
|-------------------|-------------------|---------|----------------|---|---|-----------|
| Lead Free         | Halogen Free      |         | 1              | 2 | 3 |           |
| TGBR20S80CL-TA3-T | TGBR20S80CG-TA3-T | TO-220  | A              | K | A | Tube      |
| TGBR20S80CL-TN3-R | TGBR20S80CG-TN3-R | TO-252  | A              | K | A | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

|   |  |
|---|--|
| <p>TGBR20S80G-TA3-T</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Green Package</p> | <p>(1) T: Tube, R: Tape Reel<br/>(2) TA3: TO-220, TN3: TO-252<br/>(3) G: Halogen Free and Lead Free L: Lead Free</p> |
|---|--|

#### MARKING

| TO-220  | TO-252   |
|---|--|
| <p>UTC<br/>TGBR20S80C</p> <p>Lot Code ← [ ] [ ] [ ] [ ] [ ] → Date Code</p> <p>L: Lead Free<br/>G: Halogen Free</p> | <p>UTC TGBR<br/>20S80C</p> <p>Lot Code ← [ ] [ ] [ ] [ ] [ ] → Date Code</p> <p>L: Lead Free<br/>G: Halogen Free</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  | $V_{RM}$  | 80         | V                |
| Working Peak Reverse Voltage   | $V_{RWM}$ | 80         | V                |
| Peak Repetitive Reverse Voltage  | $V_{RRM}$ | 80         | V                |
| Average Rectified Output Current Per Device  | Per Leg   | 10         | A                |
|  | Total     | 20         | A                |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 150        | A                |
| Operating Junction Temperature   | $T_J$     | +125       | $^\circ\text{C}$ |
| 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 Ambient | TO-220 | 2       | $^\circ\text{C/W}$ |
|                     | TO-252 | 6       | $^\circ\text{C/W}$ |

■ 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) | $V_{(BR)R}$ | $I_R=0.50\text{mA}$                     | 80  |     |      | V             |
| Forward Voltage Drop               | $V_{FM}$    | $I_F=10\text{A}, T_J=25^\circ\text{C}$  |     |     | 0.62 | V             |
|                                    |             | $I_F=10\text{A}, T_J=125^\circ\text{C}$ |     |     | 0.6  | V             |
| Leakage Current (Note 1)           | $I_{RM}$    | $V_R=80\text{V}, T_J=25^\circ\text{C}$  |     |     | 300  | $\mu\text{A}$ |
|                                    |             | $V_R=80\text{V}, T_J=125^\circ\text{C}$ |     |     | 45   | mA            |

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

2. Thermal resistance junction to case mounted on heatsink.

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