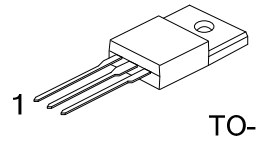
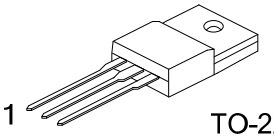
# TGBR20U45C

**Preliminary** ***DIODE***

## DUAL TRENCH MOS SCHOTTKY BARRIER RECTIFIER




TO-220F




TO-220F1

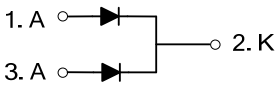
### ■ DESCRIPTION

The UTC **TGBR20U45C** 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

* Ultra low forward voltage drop
* High switching speed
* High current capability

### ■ SYMBOL



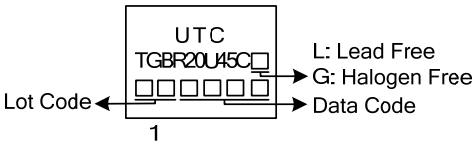

### ■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|---|---|---|---|---|---|---|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| TGBR20U45CL-TF1-T | TGBR20U45CG-TF1-T | TO-220F1 | A | K | A | Tube |
| TGBR20U45CL-TF3-T | TGBR20U45CG-TF3-T | TO-220F | A | K | A | Tube |

Note: Pin Assignment: A: Anode K: Cathode

| | |
|---|---|
| TGBR20U45CL-TF1-T<br>(1)Packing Type | (1) T: Tube |
| (2)Package Type | (2) TF1: TO-220F1, TF3: TO-220F |
| (3)Green Package | (3) L: Lead Free, G: Halogen Free and Lead Free |

### ■ MARKING



## ■ ABSOLUTE MAXIMUM RATINGS ($T_A$=25°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 | | $V_{RM}$ | 45 | V |
| Working Peak Reverse Voltage | | $V_{RWM}$ | 45 | V |
| Peak Repetitive Reverse Voltage | | $V_{RRM}$ | 45 | V |
| Average Rectified Output Current Per Device | Per Leg | $I_O$ | 10 | A |
| | Total | | 20 | 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 | °C |
| Storage Temperature | | $T_{STG}$ | -65 ~ +150 | °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 | $\theta_{JC}$ | 4 | °C/W |

## ■ ELECTRICAL CHARACTERISTICS (PER LEG) ($T_A$ =25°C unless otherwise specified.)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R$=0.50mA | 45 | | | V |
| Forward Voltage Drop | $V_{FM}$ | $I_F$=10A, $T_J$=25°C | | | 0.47 | V |
| | | $I_F$=10A, $T_J$=125°C | | | 0.42 | V |
| Leakage Current | $I_{RM}$ | $V_R$=45V, $T_J$=25°C | | | 500 | μA |
| | | $V_R$=45V, $T_J$=125°C | | | 100 | mA |

Note: Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%.