



## TGBR20V45

Preliminary

DIODE

### TRENCH MOS SCHOTTKY BARRIER RECTIFIER

#### DESCRIPTION

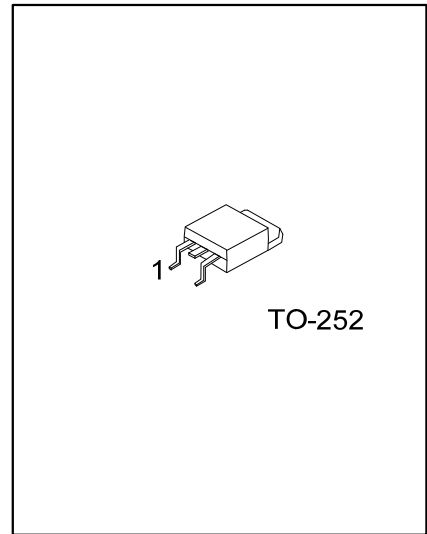
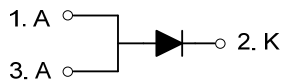
The UTC **TGBR20V45** is a trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **TGBR20V45** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

#### FEATURES

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

#### SYMBOL



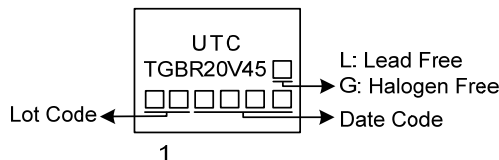
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TGBR20V45L-TN3-R	TGBR20V45G-TN3-R	TO-252	A	K	A	Tape Reel

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

<p>TGBR20V45G-TN3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) TN3: TO-252</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### 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	$V_{RM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$	45	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Average Rectified Output Current	$I_O$	20	A
$T_C=125^{\circ}\text{C}$			
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	$\theta_{JC}$	6	$^{\circ}\text{C}/\text{W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	$V_{FM}$	$I_F=20\text{A}, T_J=25^{\circ}\text{C}$			0.55	V
		$I_F=20\text{A}, T_J=125^{\circ}\text{C}$			0.5	V
Peak Reverse Current at Rated DC Blocking Voltage	$I_{RM}$	$V_R=45\text{V}, T_J=25^{\circ}\text{C}$			300	$\mu\text{A}$
		$V_R=45\text{V}, T_J=125^{\circ}\text{C}$			100	mA

Notes: 1. Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$ .

2. Mounted on an FR4 PCB, single-sided copper, with 100 cm<sup>2</sup> copper pad area.

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