



TGBR30U45

Preliminary

DIODE

TRENCH MOS SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

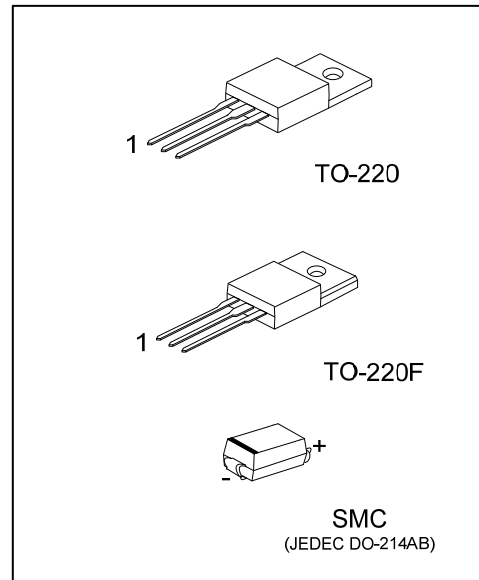
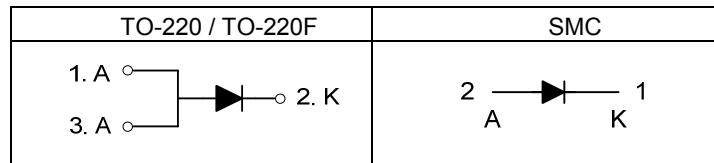
The UTC **TGBR30U45** is a trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **TGBR30U45** 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



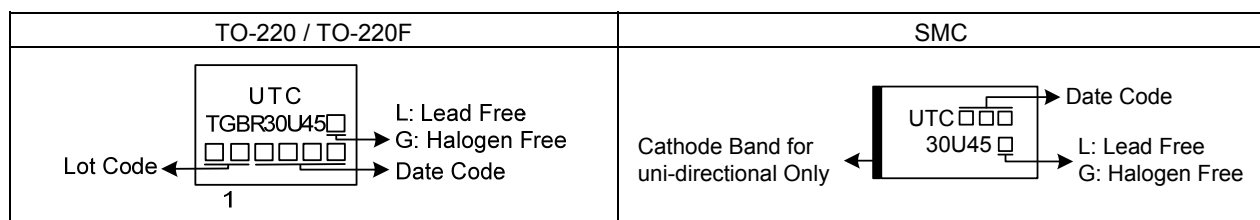
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TGBR30U45L-TA3-T	TGBR30U45G-TA3-T	TO-220	A	K	A	Tube
TGBR30U45L-TF3-T	TGBR30U45G-TF3-T	TO-220F	A	K	A	Tube
TGBR30U45L-SMC-R	TGBR30U45G-SMC-R	SMC	K	A	-	Tape Reel

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

<p>TGBR30U45G-TA3-T</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) T: Tube, R: Tape Reel (2) TA3: TO-220, TF3: TO-220F, SMC: SMC (3) G: Halogen Free and Lead Free, L: Lead Free
---	---

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	30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	260	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	2	$^\circ\text{C/W}$
	TO-220F	4	$^\circ\text{C/W}$
	SMC	20 (Note)	$^\circ\text{C/W}$

Note: FR-4 PCB, 2 oz Copper. Minimum recommended pad layout.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=3\text{A}, T_J=25^\circ\text{C}$			0.4	V
		$I_F=3\text{A}, T_J=125^\circ\text{C}$		0.35		V
		$I_F=15\text{A}, T_J=25^\circ\text{C}$			0.46	V
		$I_F=15\text{A}, T_J=125^\circ\text{C}$		0.38		V
		$I_F=30\text{A}, T_J=25^\circ\text{C}$			0.55	V
		$I_F=30\text{A}, T_J=125^\circ\text{C}$		0.45		V
Leakage Current	I_{RM}	$V_R=45\text{V}, T_J=25^\circ\text{C}$			100	μA
		$V_R=45\text{V}, T_J=125^\circ\text{C}$			100	mA

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

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.