



TGBR15U45

Preliminary

DIODE

TRENCH MOS SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

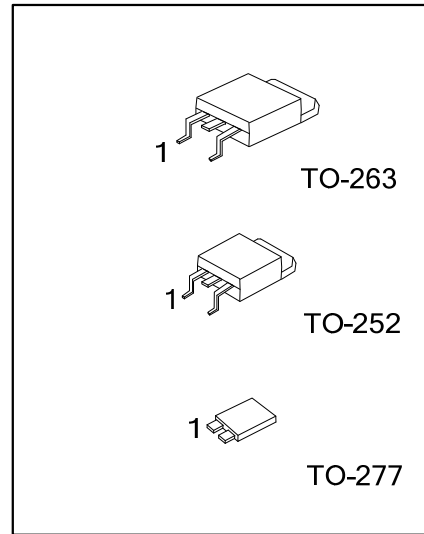
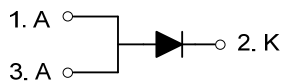
The UTC **TGBR15U45** is a trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **TGBR15U45** 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	
TGBR15U45L-TN3-R	TGBR15U45G-TN3-R	TO-252	A	K	A	Tape Reel
TGBR15U45L-TQ2-T	TGBR15U45G-TQ2-T	TO-263	A	K	A	Tube
TGBR15U45L-TQ2-R	TGBR15U45G-TQ2-R	TO-263	A	K	A	Tape Reel
TGBR15U45L-T27-R	TGBR15U45G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>TGBR15U45G-TN3-R</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TN3: TO-252, TQ2: TO-263, T27: TO-277</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

TO-252 / TO-263	TO-277

■ 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	15	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	$^\circ\text{C}$
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-252	6	$^\circ\text{C/W}$
	TO-263	3	$^\circ\text{C/W}$
	TO-277	13 (Note 3)	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=5\text{A}, T_J=25^\circ\text{C}$		0.41		V
		$I_F=5\text{A}, T_J=125^\circ\text{C}$		0.29		V
		$I_F=10\text{A}, T_J=25^\circ\text{C}$		0.44		V
		$I_F=10\text{A}, T_J=125^\circ\text{C}$		0.33		V
		$I_F=15\text{A}, T_J=25^\circ\text{C}$		0.46	0.50	V
		$I_F=15\text{A}, T_J=125^\circ\text{C}$		0.37	0.45	V
Peak Reverse Current at Rated DC Blocking Voltage	I_{RM}	$V_R=45\text{V}, T_J=25^\circ\text{C}$		10	500	μA
		$V_R=45\text{V}, T_J=125^\circ\text{C}$		10	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^2 copper pad area.

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