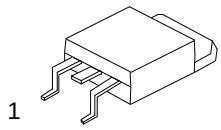
TGBR30U50

DIODE

TRENCH MOS SCHOTTKY BARRIER RECTIFIER



TO-263

■ DESCRIPTION

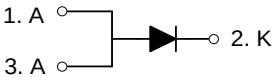
The UTC **TGBR30U50** is a trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **TGBR30U50** 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



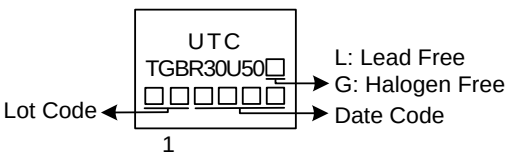
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TGBR30U50L-TQ2-T	TGBR30U50G-TQ2-T	TO-263	A	K	A	Tube
TGBR30U50L-TQ2-R	TGBR30U50G-TQ2-R	TO-263	A	K	A	Tape Reel

Note: Pin Assignment: G: Gate D: Drain S: Source

TGBR30U50G-TQ2-T (1)Packing Type	(1) T: Tube, R: Tape Reel
(2)Package Type	(2) TQ2: TO-263
(3)Green Package	(3) G: Halogen Free and Lead Free, L: 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}	50	V
Working Peak Reverse Voltage		V_{RWM}	50	V
Peak Repetitive Reverse Voltage		V_{RRM}	50	V
Average Rectified Output Current	T_C=125°C	I_O	30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	380	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	θ_{JC}	3	°C/W

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

■ 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=0.5mA	50			V
Forward Voltage Drop	V_{FM}	I_F=5A, T_J=25°C		0.4		V
		I_F=5A, T_J=125°C		0.3		V
		I_F=15A, T_J=25°C		0.42		V
		I_F=15A, T_J=125°C		0.38		V
		I_F=30A, T_J=25°C		0.48	0.56	V
		I_F=30A, T_J=125°C		0.46	0.53	V
Leakage Current	I_{RM}	V_R=50V, T_J=25°C			50	μA
		V_R=50V, T_J=125°C			5	mA

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

■ TYPICAL CHARACTERISTICS