



## MBR1045

Preliminary

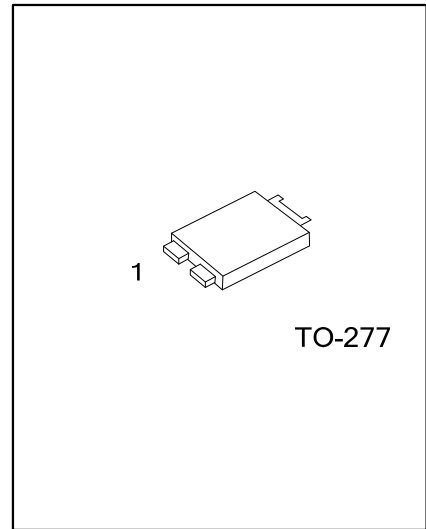
DIODE

### 10A SCHOTTKY BARRIER RECTIFIER

#### DESCRIPTION

The UTC **MBR1045** is a 10A schottky barrier rectifier, it uses UTC's advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc.

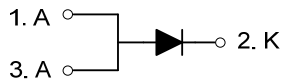
The UTC **MBR1045** is suitable for free wheeling and polarity protection, etc.



#### FEATURES

- \* Low Reverse Current
- \* Low Stored Charge, Majority Carrier Conduction
- \* Low Power Loss/High Efficiency
- \* Highly Stable Oxide Passivated Junction

#### SYMBOL



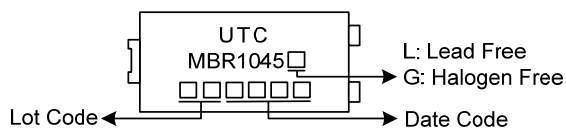
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MBR1045L-T27-R	MBR1045G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>MBR1045G-T27-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) T27: TO-227</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

Ratings at  $25^{\circ}\text{C}$  ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	RATINGS	UNIT
Working Peak Reverse Voltage	$V_{RWM}$	45	V
Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Reverse Voltage	$V_{RMS}$	31.5	V
DC Blocking Voltage	$V_R$	45	V
Average Rectified Output Current ( $T_A=105^{\circ}\text{C}$ )	$I_O$	10	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	150	A
Junction Temperature	$T_J$	-55 ~ +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +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

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	73	$^{\circ}\text{C}/\text{W}$

Note: Mounted on an FR4 PCB, single-sided copper, with  $100\text{ cm}^2$  copper pad area.

■ ELECTRICAL CHARACTERISTICS (Note 2)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage Drop	$V_F$	$I_F=10\text{A}$ , $T_C=25^{\circ}\text{C}$			0.84	V
		$I_F=10\text{A}$ , $T_C=125^{\circ}\text{C}$			0.57	
Instantaneous Reverse Current	$I_R$	Rated DC Voltage, $T_C=25^{\circ}\text{C}$			100	$\mu\text{A}$
		Rated DC Voltage, $T_C=125^{\circ}\text{C}$			15	mA

Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2. Pulse Test: Pulse Width =  $300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

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