



## MBR5100

Preliminary

DIODE

### 5.0A SCHOTTKY BARRIER RECTIFIER

#### DESCRIPTION

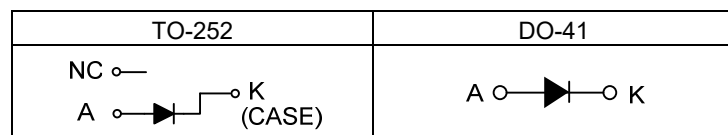
The UTC **MBR5100** is a 5.0A schottky barrier rectifier, it uses UTC's advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc.

The UTC **MBR5100** is suitable for free wheeling and polarity protection, etc.

#### FEATURES

- \* Low forward voltage drop, High Current Capability
- \* Low power loss, High efficiency
- \* High Surge Capability
- \* For Use in Low Voltage, High Frequency Inverters and Polarity Protection Applications.

#### SYMBOL



#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MBR5100L-TN3-R	MBR5100G-TN3-R	TO-252	NC	K	A	Tape Reel
MBR5100L-Z41-R	MBR5100G-Z41-R	DO-41	K	A	-	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

	(1) R: Tape Reel (2) TN3: TO-252, Z41: DO-41 (3) G: Halogen Free and Lead Free L: Lead Free
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#### MARKING

TO-252	DO-41

### ■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub>=25°C, unless otherwise specified)

Ratings at 25°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 <sub>RWM</sub>	100	V
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum RMS Reverse Voltage	V <sub>R(RMS)</sub>	70	V
DC Blocking Voltage	V <sub>R</sub>	100	V
Average Rectified Output Current	I <sub>O</sub>	5.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	80	A
Junction Temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-252	2.5	°C/W
	DO-41	25	°C/W

### ■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =0.50mA	100			V
Instantaneous Forward Voltage Drop	V <sub>FM</sub>	I <sub>F</sub> =5A, T <sub>C</sub> =25°C			0.80	V
		I <sub>F</sub> =5A, T <sub>C</sub> =125°C			0.75	V
Peak Reverse Current at Rated DC Blocking Voltage	I <sub>RM</sub>	Rated DC Voltage, T <sub>C</sub> =25°C			50	μA
		Rated DC Voltage, T <sub>C</sub> =100°C			10	mA

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

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