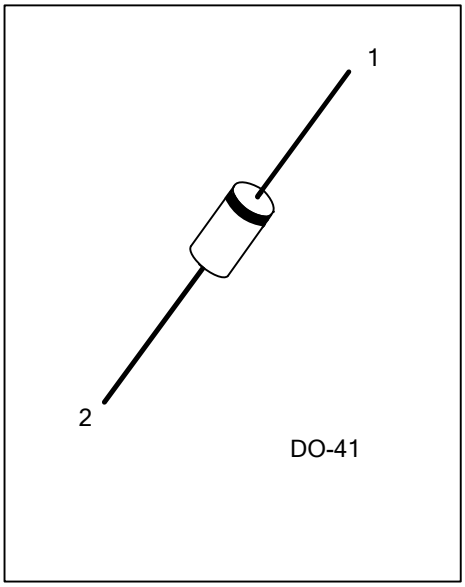
# 5.0A SCHOTTKY BARRIER RECTIFIER




## ■ DESCRIPTION

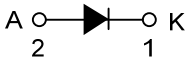
The UTC **MBR5100** is a 5.0A schottky barrier rectifier, it uses UTC's advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc.

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.

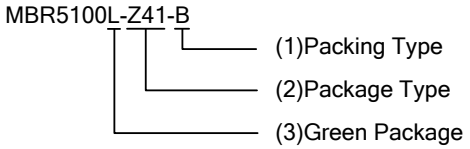
## ■ SYMBOL




## ■ ORDERING INFORMATION

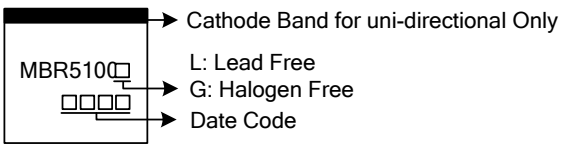
| Ordering Number | | Package | Pin Assignment | | Packing |
|---|---|---|---|---|---|
| Lead Free | Halogen Free | | 1 | 2 | |
| MBR5100L-Z41-R | MBR5100G-Z41-R | DO-41 | K | A | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode




(1) B: Tape Box, R: Tape Reel
(2) Z41: DO-41
(3) L: Lead Free, G: Halogen Free and Lead Free

## ■ MARKING



## ■ ABSOLUTE MAXIMUM RATING ($T_A$=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 | $V_{RWM}$ | 100 | V |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | 100 | V |
| Maximum RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | V |
| DC Blocking Voltage | $V_R$ | 100 | V |
| Average Rectified Output Current | $I_O$ | 5.0 | 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 | °C |
| Storage Temperature | $T_{STG}$ | -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 | $\theta_{JC}$ | 25 | °C/W |

## ■ ELECTRICAL CHARACTERISTICS

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R$=0.50mA | 150 | | | V |
| Instantaneous Forward Voltage Drop | $V_{FM}$ | $I_F$=5A, $T_C$=25°C | | | 0.80 | V |
| | | $I_F$=5A, $T_C$=125°C | | | 0.75 | V |
| Peak Reverse Current at Rated DC Blocking Voltage | $I_{RM}$ | Rated DC Voltage, $T_C$=25°C | | | 50 | μA |
| | | Rated DC Voltage, $T_C$=100°C | | | 10 | mA |

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