



**MBR160**

Preliminary

**DIODE**

**1.0A SCHOTTKY BARRIER RECTIFIER**

■ DESCRIPTION

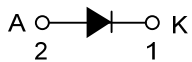
The UTC **MBR160** is a 1.0A schottky barrier rectifier, it uses UTC's advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc.

The UTC **MBR160** 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

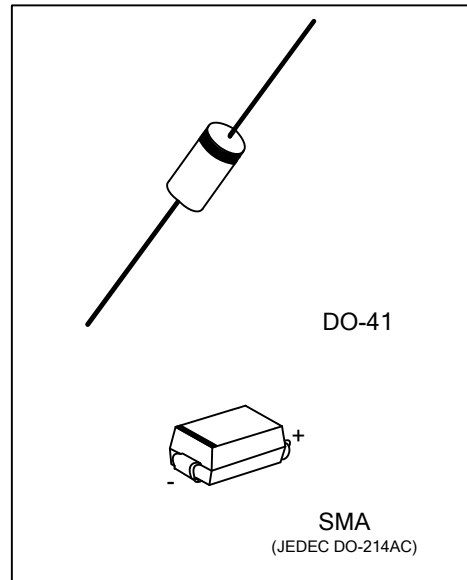
| Ordering Number |               | Package | Pin Assignment |   | Packing   |
|-----------------|---------------|---------|----------------|---|-----------|
| Lead Free       | Halogen Free  |         | 1              | 2 |           |
| MBR160L-SMA-R   | MBR160G-SMA-R | SMA     | K              | A | Tape Reel |
| MBR160L-Z41-B   | MBR160G-Z41-B | DO-41   | K              | A | Tape Box  |
| MBR160L-Z41-R   | MBR160G-Z41-R | DO-41   | K              | A | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

|   |   |
|---|---|
| <p>MBR160L-Z41-B</p> <p>(1) Packing Type<br/>(2) Package Type<br/>(3) Lead Free</p> | <p>(1) B: Tape Box, R: Tape Reel<br/>(2) Z41: DO-41, SMA: SMA<br/>(3) L: Lead Free, G: Halogen Free</p> |
|---|---|

■ MARKING

| SMA   | DO-41   |
|---|---|
| <p>Cathode Band for uni-directional Only</p> <p>UTC<br/>MBR160</p> <p>Date Code</p> <p>L: Lead Free<br/>G: Halogen Free</p> | <p>Cathode Band for uni-directional Only</p> <p>MBR160</p> <p>L: Lead Free<br/>G: Halogen Free</p> <p>Date Code</p> |



■ 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  | $V_{RWM}$ | 60       | V                  |
| Repetitive Peak Reverse Voltage   | $V_{RRM}$ | 60       | V                  |
| Maximum RMS Reverse Voltage   | $V_{RMS}$ | 42       | V                  |
| DC Blocking Voltage   | $V_R$     | 60       | V                  |
| Average Rectified Output Current ( $T_A=105^{\circ}\text{C}$ )                    | $I_O$     | 1.0      | A                  |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$ | 30       | 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 DATA

| PARAMETER           | SYMBOL        | RATINGS | UNIT                        |
|---------------------|---------------|---------|-----------------------------|
| Junction to Ambient | $\theta_{JA}$ | 50      | $^{\circ}\text{C}/\text{W}$ |

■ ELECTRICAL CHARACTERISTICS

| PARAMETER                                   | SYMBOL | TEST CONDITIONS                             | MIN | TYP | MAX  | UNIT          |
|---|--------|---|-----|-----|------|---------------|
| Instantaneous Forward Voltage Drop (Note 2) | $V_F$  | $I_F=1.0\text{A}, T_C=25^{\circ}\text{C}$   |     |     | 0.74 | V             |
|   |        | $I_F=1.0\text{A}, T_C=125^{\circ}\text{C}$  |     |     | 0.69 |               |
| Instantaneous Reverse Current (Note 2)      | $I_R$  | Rated DC Voltage, $T_C=25^{\circ}\text{C}$  |     |     | 50   | $\mu\text{A}$ |
|   |        | Rated DC Voltage, $T_C=125^{\circ}\text{C}$ |     |     | 10   | mA            |

Notes: 1.  $2.0\mu\text{s}$  Pulse Width,  $f = 1.0\text{KHz}$ .

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

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.