

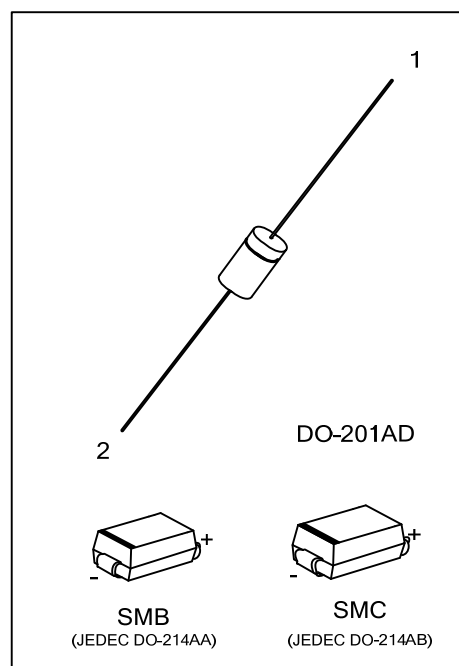
**SB540****DIODE****5.0A SCHOTTKY BARRIER RECTIFIER****■ DESCRIPTION**

The UTC **SB540** is 5.0A schottky barrier rectifier. it uses UTC's advanced technology to provide customers with high current capability and low forward voltage drop, etc.

The UTC **SB540** is suitable for free wheeling, low voltage and polarity protection applications, etc.

**■ FEATURES**

- \* Metal to silicon rectifier, majority carrier conduction.
- \* For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- \* Low power loss, high efficiency.
- \* High current capability, low  $V_F$ .
- \* High surge capacity.

**■ ORDERING INFORMATION**

| Ordering Number |               | Package  | Pin Assignment |   | Packing   |
|-----------------|---------------|----------|----------------|---|-----------|
| Lead Free       | Halogen Free  |          | 1              | 2 |           |
| SB540L-SMB-R    | SB540G-SMB-R  | SMB      | K              | A | Tape Reel |
| SB540L-SMC-R    | SB540G-SMC-R  | SMC      | K              | A | Tape Reel |
| SB540L-Z21D-B   | SB540G-Z21D-B | DO-201AD | K              | A | Tape Box  |

Note: Pin Assignment: A: Anode K: Cathode

|                                                                                              |                                                                                                                                           |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <p>SB540L-SMB-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p> | <p>(1) R: Tape Reel, B: Tape Box</p> <p>(2) SMB: SMB, SMC: SMC, Z21D: DO-201AD</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p> |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|

**■ MARKING**

| SMB / SMC                                                                                                                              | DO-201AD                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <p>Cathode Band for uni-directional Only</p> <p>UTC □□□</p> <p>SB540 □</p> <p>Date Code</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> | <p>Cathode Band for uni-directional Only</p> <p>SB540 □</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> <p>Date Code</p> |

### ■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified.)(Note 2)

| PARAMETER                                                              |          | SYMBOL              | RATINGS    | UNIT |
|------------------------------------------------------------------------|----------|---------------------|------------|------|
| DC Blocking Voltage                                                    |          | V <sub>R</sub>      | 40         | V    |
| Peak Repetitive Reverse Voltage                                        |          | V <sub>RRM</sub>    | 40         | V    |
| Working Peak Reverse Voltage                                           |          | V <sub>RWM</sub>    | 40         | V    |
| RMS Reverse Voltage                                                    |          | V <sub>R(RMS)</sub> | 28         | V    |
| Average Rectified Output Current                                       |          | I <sub>O</sub>      | 5.0        | A    |
| Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave |          | I <sub>FSM</sub>    | 150        | A    |
| Power Dissipation                                                      | SMB/SMC  | P <sub>D</sub>      | 3.7        | W    |
|                                                                        | DO-201AD |                     | 5.0        |      |
| Junction Temperature                                                   |          | T <sub>J</sub>      | -65 ~ +150 | °C   |
| Storage Temperature                                                    |          | T <sub>STG</sub>    | -65 ~ +150 | °C   |

Notes: 1. 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.

2. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### ■ THERMAL DATA

| PARAMETER                    |          | SYMBOL          | RATINGS | UNIT |
|------------------------------|----------|-----------------|---------|------|
| Junction to Ambient (Note 3) | SMB/SMC  | θ <sub>JA</sub> | 75      | °C/W |
|                              | DO-201AD |                 | 40      |      |

### ■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise specified.)

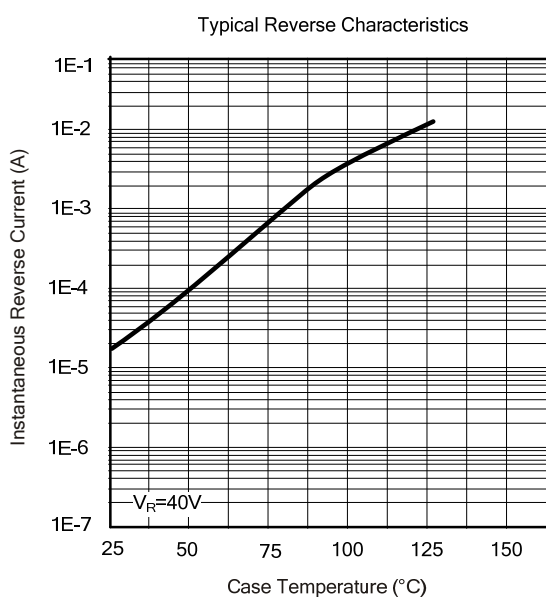
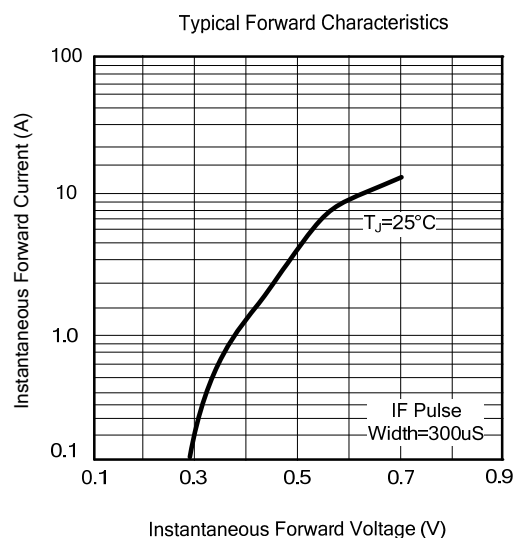
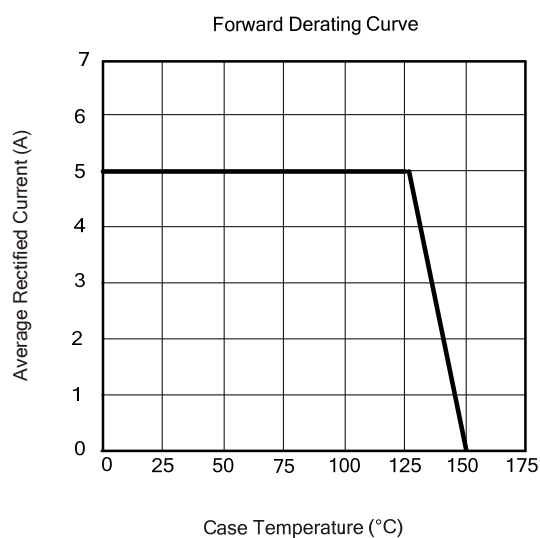
| PARAMETER                          | SYMBOL             | TEST CONDITIONS                             | MIN | TYP | MAX  | UNIT |
|------------------------------------|--------------------|---------------------------------------------|-----|-----|------|------|
| Reverse Breakdown Voltage (Note 1) | V <sub>(BR)R</sub> | I <sub>R</sub> =0.50mA                      | 40  |     |      | V    |
| Forward Voltage Drop               | V <sub>FM</sub>    | I <sub>F</sub> =5.0A, T <sub>J</sub> =25°C  |     |     | 0.55 | V    |
|                                    |                    | I <sub>F</sub> =5.0A, T <sub>J</sub> =100°C |     |     | 0.50 | V    |
| Leakage Current (Note 1)           | I <sub>RM</sub>    | V <sub>R</sub> =40V, T <sub>J</sub> =25°C   |     |     | 0.50 | mA   |
|                                    |                    | V <sub>R</sub> =40V, T <sub>J</sub> =100°C  |     |     | 50   | mA   |

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

3. 1 inch square pad size (1×0.5 inch for each lead ) on FR4 board.

## ■ TYPICAL CHARACTERISTICS



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