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## 650 V high voltage rectifier for BC<sup>2</sup> topology

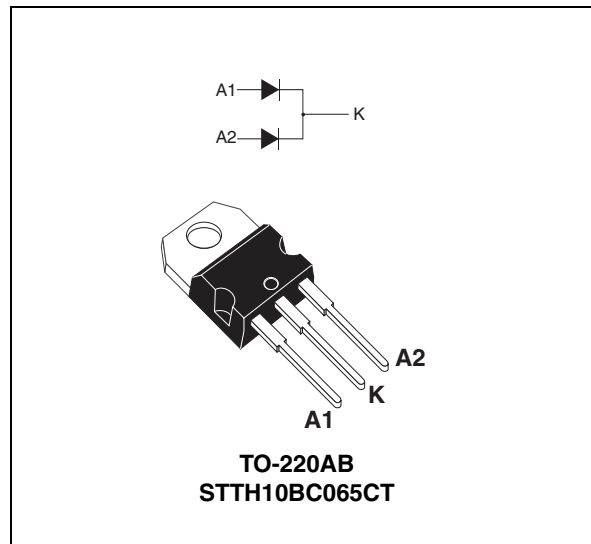
Data brief

### Features

- high voltage rectifier
- optimized diode for BC<sup>2</sup> topology (ST patent)
- low switching losses
- improves efficiency by up to 2.5% compared to a conventional continuous mode PFC using standard ultrafast 600 V PN diodes
- efficiency performance similar to traditional topologies using 600 V Schottky power diodes with no reverse recovery charges used in CCM PFC
- provides a cost-effective solution to meet the 80+ efficiency requirements
- supports PFC working up to 300 kHz
- suitable for PFC up to 1 kW
- compatible with standard PFC controller ICs

### Description

The STTH10BC065C is a specific rectification diode used in continuous mode power factor correction working in the BC<sup>2</sup> topology. This diode has been specially designed for the dedicated BC<sup>2</sup> topology. Its electrical characteristics were specifically studied to optimize the cost/performance ratio. As a result, SMPS efficiency improvements of up to 2.5% (comparable with topologies using SiC) can be achieved at an optimized cost.



**Table 1. Device summary**

| Symbol      | Value   |
|-------------|---------|
| $I_{F(AV)}$ | 2 x 5 A |
| $V_{RRM}$   | 650 V   |

## 1 Ordering information

Table 2. Ordering information

| Order code    | Marking      | Package  | Weight | Base qty. | Delivery mode |
|---------------|--------------|----------|--------|-----------|---------------|
| STTH10BC065CT | STTH10BC065C | TO-220AB | 1.90 g | 50        | Tube          |

## 2 Revision history

Table 3. Document revision history

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 23-Nov-2010 | 1        | Initial release. |

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