

## 15 V / 100 mA high voltage buck converter reference design based on VIPER26K



### Features

- Ultra-wide range: 90–600 V<sub>AC</sub> or 60–870 V<sub>DC</sub>
- Frequency: 50-60 Hz
- Output voltage: 15 V
- Output current: 100 mA
- Very compact size
- Tight line and load regulation over the entire input and output range
- Meets IEC55022 Class B conducted EMI even with a reduced EMI filter, thanks to the frequency jittering feature
- RoHS compliant

### Description

The [STEVAL-VP26K01B](#) reference design implements a 15 V-1.5 W buck converter for ultra-wide input voltage range auxiliary power supplies from 60 to 870 V<sub>DC</sub> or 90 to 600 V<sub>AC</sub>. The highly compact design offers tight line and load regulation over the entire input and output range.

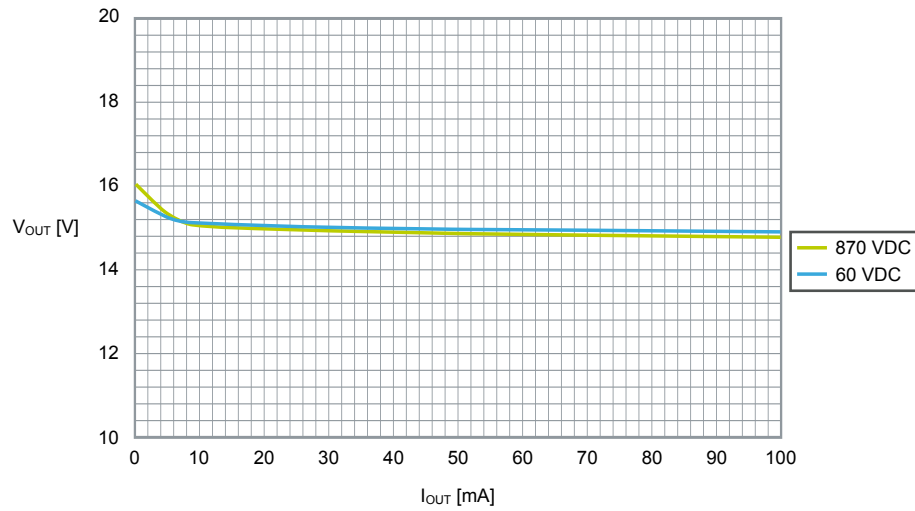
The board represents a very low cost buck solution based on the new [VIPER265KDTR](#) offline high-voltage converter from the [VIPerPlus](#) family with 1050 V Power MOSFET and PWM current-mode control. It allows direct connection to ultra-wide range mains without the need for input an voltage limiter and/or stacked MOSFETs, therefore ensuring a minimal BOM.

The [VIPER265KDTR](#) operates at 60 kHz fixed frequency with frequency jittering to meet the EMC standard requirements.

Product summary	
15 V / 100 mA high voltage buck converter based on VIPer265KD	<a href="#">STEVAL-VP26K01B</a>
1050 V high voltage converter	<a href="#">VIPER265KDTR</a>
1000 V, 1 A ultrafast diode	<a href="#">STTH110</a>
low capacitance small signal Schottky diodes	<a href="#">BAT41</a>
VIPerPlus series high voltage converters	<a href="#">VIPerPlus</a>
Applications	<a href="#">Buck converter</a>

# 1 Features and specifications

**Figure 1. STEVAL-VP26K01B line-load regulation**

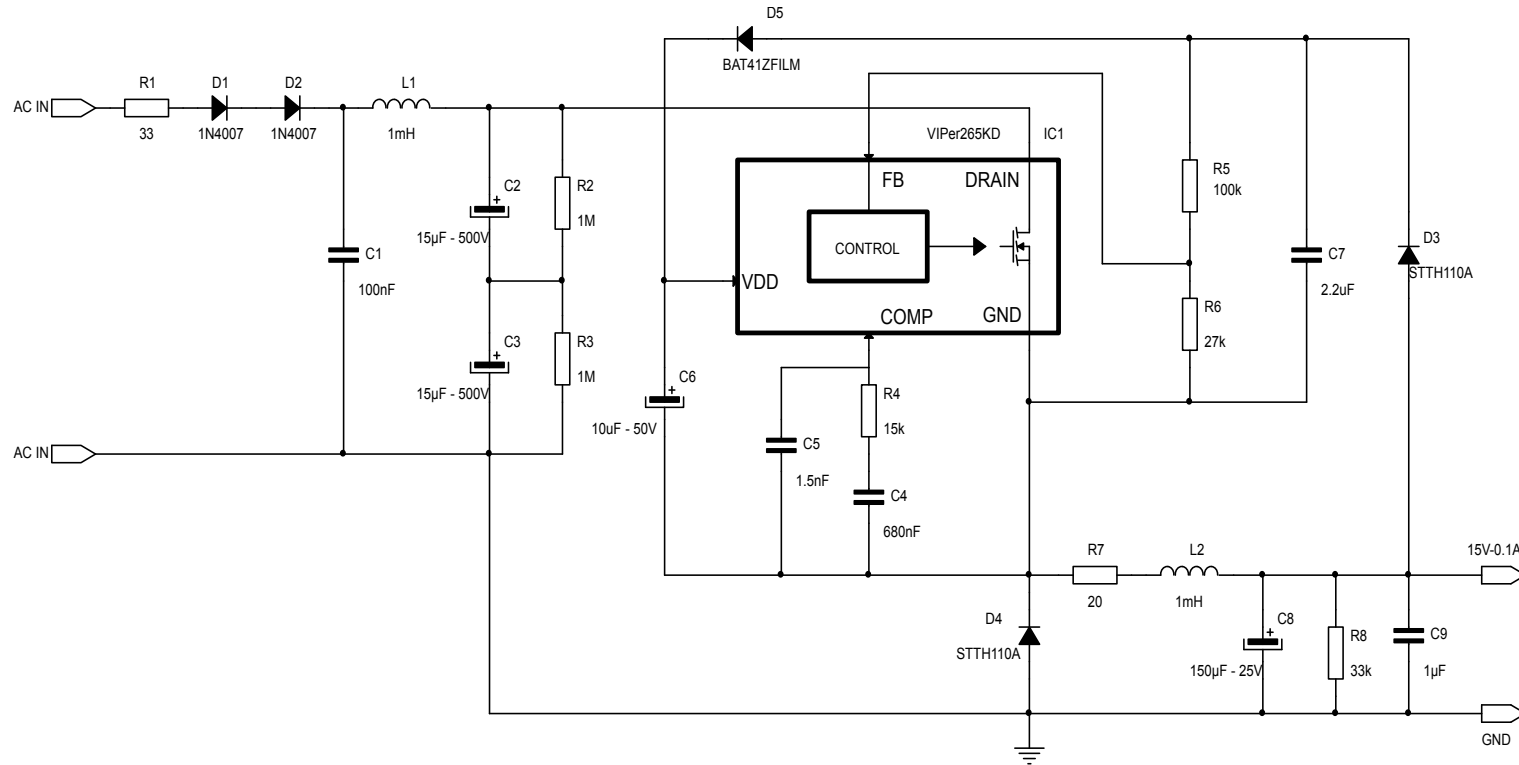


**RELATED LINKS**

*Please visit the [VIPerPlus](#) page on the [ST website](#) for more information on this series of high-voltage converters*

## 2 Schematic diagrams

Figure 2. STEVAL-VP26K01B schematic diagram



## Revision history

**Table 1. Document revision history**

Date	Version	Changes
08-Jul-2019	1	Initial release.

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