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STEVAL-VP26K01B

Data brief

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



VIPerPlus

Features

- Ultra-wide range: 90–600 V_{AC} or 60–870 V_{DC}
- 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_{DC} or 90 to 600 V_{AC}. 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.

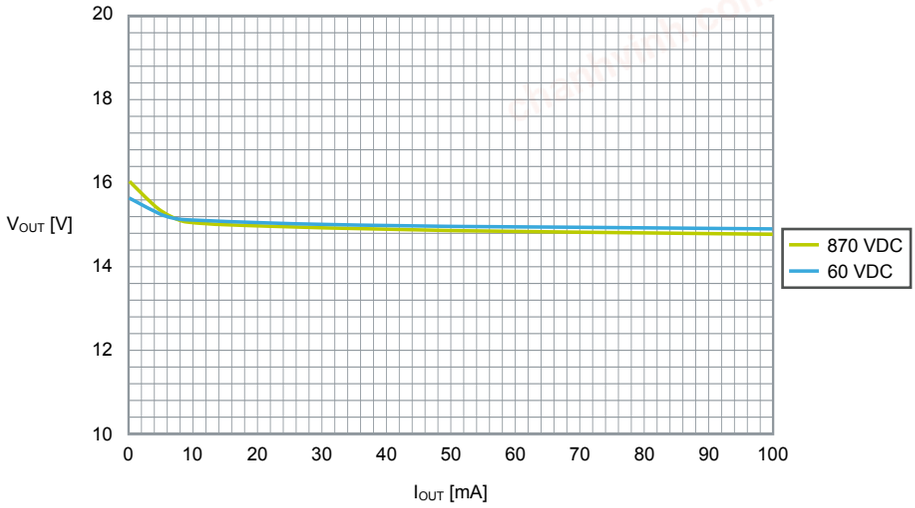
The VIPER265KDTR operates at 60 kHz fixed frequency with frequency jittering to meet the EMC standard requirements.

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

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1 Features and specifications

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



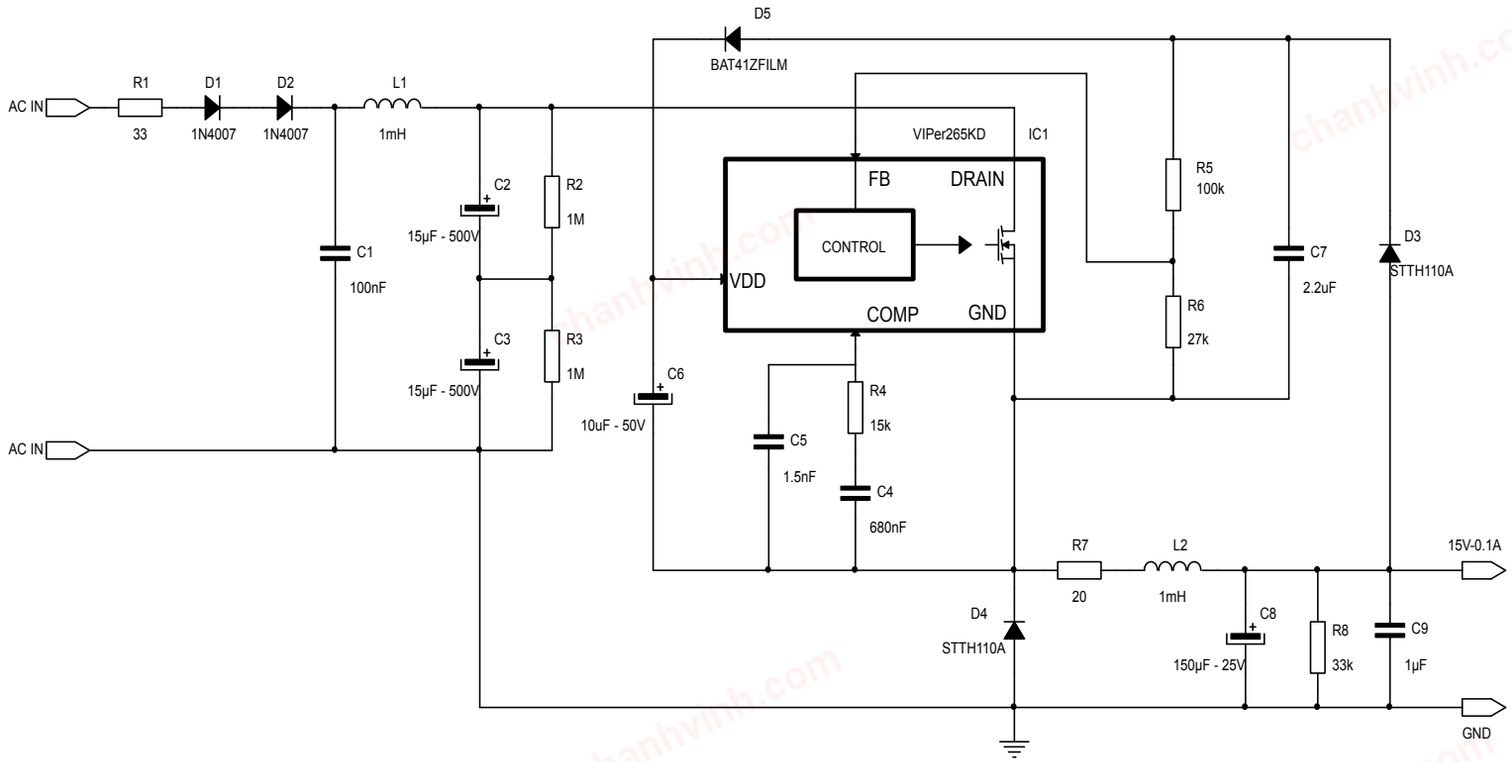
RELATED LINKS

Please visit the VIPerPlus page on the ST website for more information on this series of high-voltage converters

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2 Schematic diagrams

Figure 2. **STEVAL-VP26K01B schematic diagram**



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Revision history

Table 1. **Document revision history**

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

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