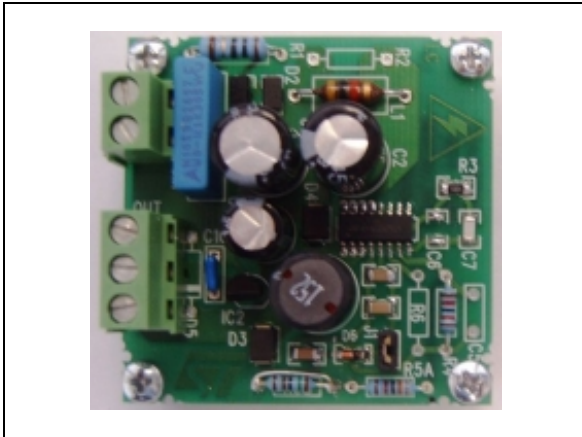


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**1.5 W double output buck demonstration board based on the VIPER16LD**

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Data brief

**Features**

- Input voltage range ( $V_{IN}$ ): 90  $V_{RMS}$  to 265  $V_{RMS}$
- Output voltage 1 ( $V_{OUT1}$ ) = 12 V
- Max output current 1: ( $I_{OUT1}$ ) = 0.1 A
- Output voltage 2: ( $V_{OUT2}$ ) = 5 V (through LDO)
- Max output current 2: ( $I_{OUT2}$ ) = 0.05 A
- Precision of output regulation  $\Delta V_{OUT\_LF} = \pm 5\%$
- High frequency output voltage ripple  $\Delta V_{OUT\_HF} = 50$  mV
- Max ambient operating temperature  $T_A = 60$  °C

**Description**

The STEVAL-ISA119V1 is a dual output buck demonstration board using the VIPER16LD, a new off-line high voltage converter by STMicroelectronics which has been specifically developed for non-isolated SMPS.

Output regulation is easily achieved through a voltage divider to the output voltage.

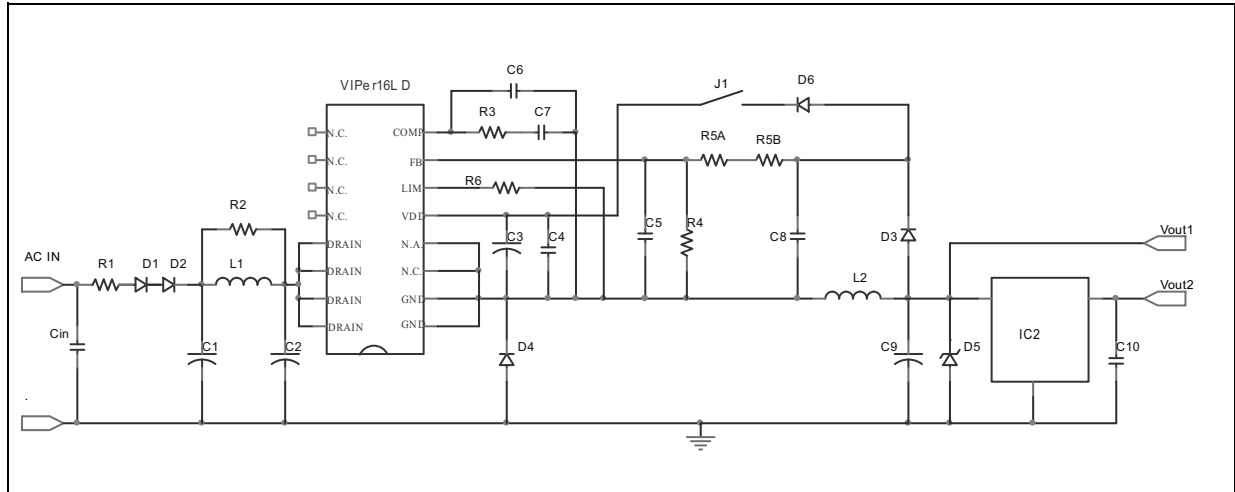
The VIPER16LD can work with or without an external supply. In the former case, very low standby consumption is possible (< 50 mW at 265  $V_{ac}$ ) while in the latter case, the cost and complication of the IC supply network may be reduced.

The other features of the device include an 800 V avalanche-rugged power section, PWM operation at 60 kHz with frequency jittering for lower EMI, limiting current with adjustable set point, on-board soft-start and safe auto-restart after a fault condition.

The available protection features are thermal shutdown with hysteresis and delayed overload protection.

# 1 Schematic diagram

Figure 1. STEVAL-ISA119V1 circuit schematic



## 2 Revision history

Table 1. Document revision history

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 18-Jun-2013 | 1        | Initial release. |