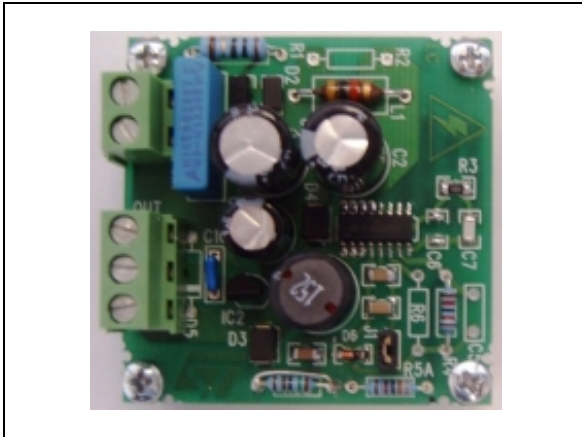

1.5 W double output buck demonstration board based on the VIPER16LD

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.

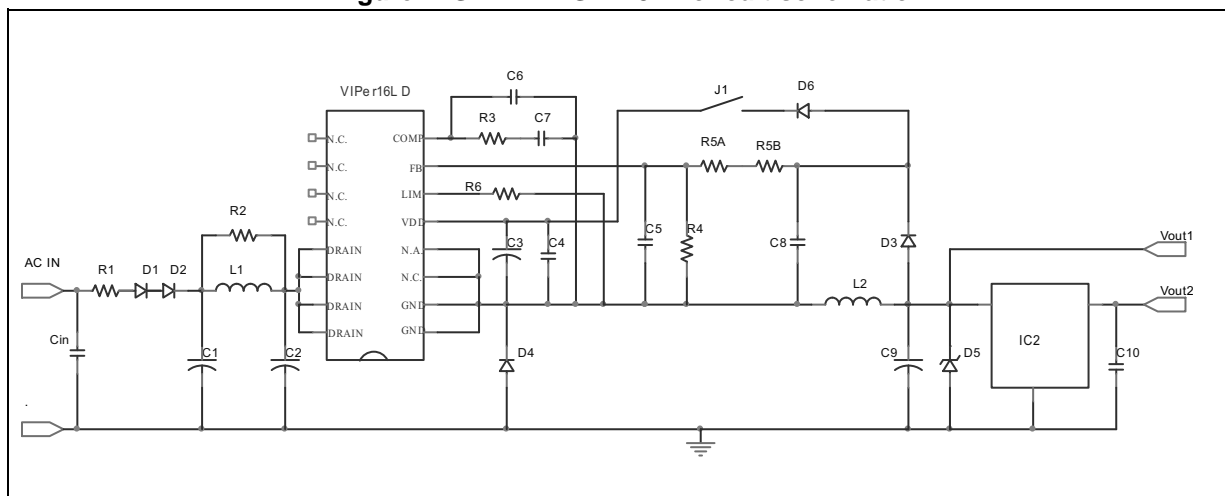
The VIPER16LD can work with or without an external supply. In the former case, very low standby consumption is possible (< 50 mW at 265 V_{ac}) while in the latter case, the cost and complication of the IC supply network may be reduced.

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. |

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