STEVAL-ISA119V1

1.5 W double output buck demonstration board based on the VIPER16LD

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 Vac) 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.

Features

- Input voltage range (VIN): 90 VRMS to 265 VRMS
- Output voltage 1 (VOUT1) = 12 V
- Max output current 1: (IOUT1) = 0.1 A
- Output voltage 2: (VOUT2) = 5 V (through LDO)
- Max output current 2: (IOUT2) = 0.05 A
- Precision of output regulation ΔVOUT_LF = ±5%
- High frequency output voltage ripple ΔVOUT_HF = 50 mV
- Max ambient operating temperature TA = 60 °C
1 Schematic diagram

Figure 1. STEVAL-ISA119V1 circuit schematic
## 2 Revision history

Table 1. Document revision history

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<thead>
<tr>
<th>Date</th>
<th>Revision</th>
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<tbody>
<tr>
<td>18-Jun-2013</td>
<td>1</td>
<td>Initial release.</td>
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