



STEVAL-ISA048V2

1 A adjustable Vout PWM synchronous step-up DC-DC converter demonstration board based on the ST8R00W

Data brief

Features

- Very low supply current: 500 μ A (typ)
- Output voltage adjustable from 6 V to 12 V
- Output voltage accuracy: $\pm 2\%$
- Output current up to 1 A
- Low ripple voltage: 5 mV (typ)
- Synchronous rectification
- High 90% efficiency: $V_O = 9$ V (typ)
- Few external components
- RoHS compliant

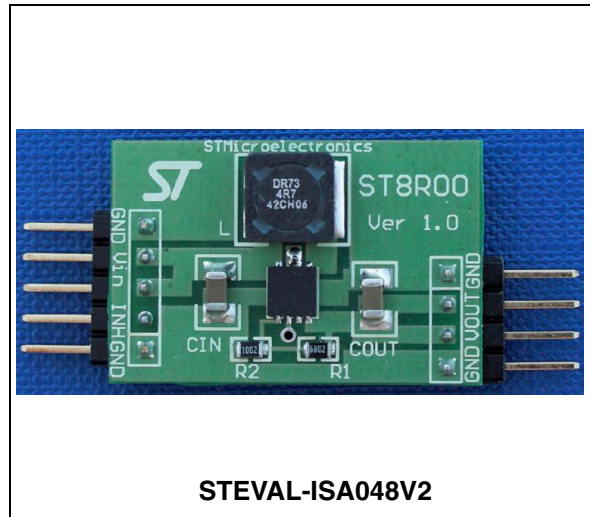
Description

This demonstration board is based on the ST8R00W family of synchronous step-up DC-DC converters with current output cut-off function that provide up to 1 A over an input voltage range of 4 V to 6 V and an output voltage range of 6 V to 12 V.

The ST8R00W is the continuous mode version, that guarantees the lowest switching ripple when the device is used at light load conditions.

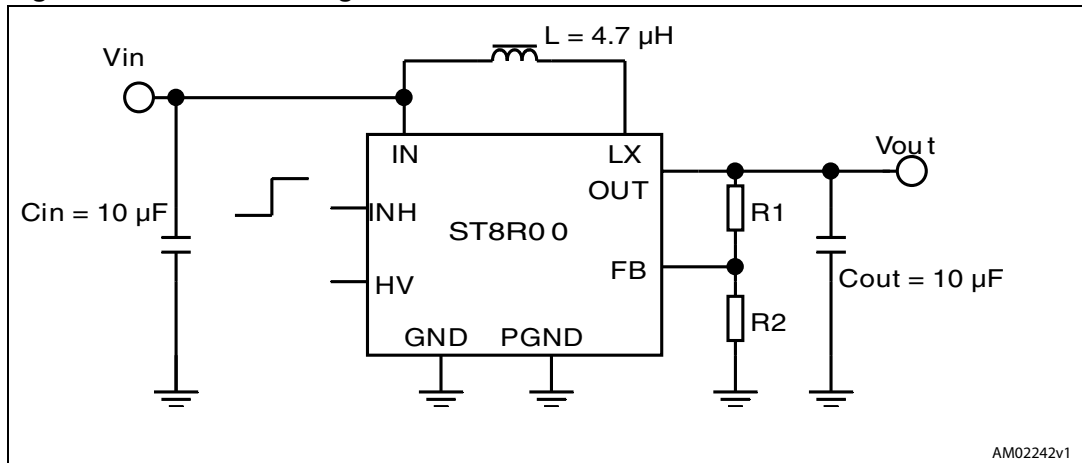
The high switching frequency (1.2 MHz) allows the use of tiny surface-mount components.

Along with the resistor divider to set the output voltage value, an inductor and two capacitors are required. A low output ripple is guaranteed by the current mode PWM topology and by the use of low ESR surface-mounted ceramic capacitors.



1 Circuit schematic

Figure 1. Schematic diagram



2 Revision history

Table 1. Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 01-Jul-2009 | 1 | Initial release. |

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