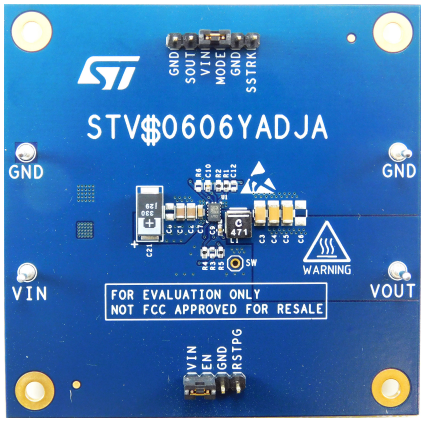
STEVAL-0606YADJ

Data brief

3.3 V/6 A automotive step down DC-DC converter (VIN up to 6 V) based on the DCP0606Y



Product summary	
3.3 V/6 A automotive step down DC-DC converter (VIN up to 6 V) based on the DCP0606Y	STEVAL-0606YADJ
QFN 2x3 11 Leads	DCP0606QTRY
Applications	DC-DC converters

Features

- 5 V (up to 6 V) operating input voltage
- Step-down (buck) conversion
- 3.3 V programmed output voltage
- 6 A DC maximum output current
- 2.25 MHz selected switching frequency with dithering
- Dynamic low consumption mode to low noise mode selection
- Programmable soft-start
- Synchronization to external clock
- Internal compensation network
- Auto recovery overcurrent, overvoltage, and thermal protection
- RoHS and China RoHS compliant
- WEEE compliant (2012/19/UE RAEE II)

Description

The STEVAL-0606YADJ product evaluation board is a step-down switching power supply based on the DCP0606Y regulator in a QFN11 2x3mm package.

The programmed switching frequency is 2.25 MHz with dithering and it can be adjusted by applying an external clock on MODE/SIN pin or by changing the frequency programming resistor.

The DCP0606Y is a high efficiency monolithic step-down synchronous switching regulator designed to deliver up to 6A continuous current.

The IC operates from 2.9 V to 6 V input voltage. DCP0606Y features low-resistance integrated N-channel MOSFETs and diode emulation working mode for optimum efficiency over all the loading range.

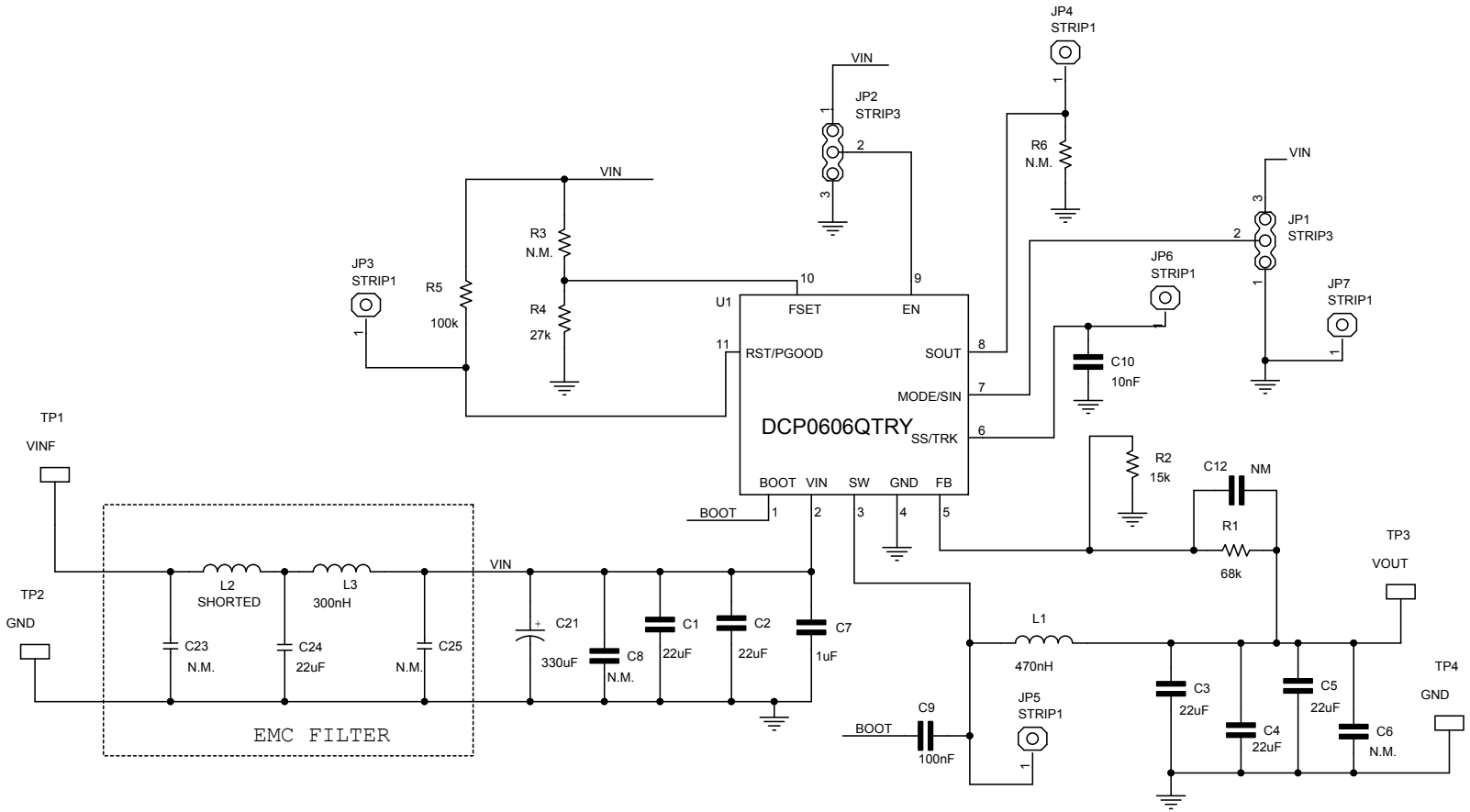
The integrated 0.6 V reference allows the regulation of output voltages with ±1.5% accuracy over temperature variations.

The switching frequency is externally adjustable between 1.8 MHz and 4 MHz.

The soft-start duration can be adjusted with an external capacitor or the same SS/TRK pin can be used for output voltage sequencing while the RST/PGOOD pin provides real-time information on the output voltage.

1 Schematic diagrams

Figure 1. **STEVAL-0606YADJ circuit schematic**



2 Board versions

Table 1. STEVAL-0606YADJ versions

Finished good	Schematic diagrams	Bill of materials
STV$0606YADJA(1)	STV$0606YADJA schematic diagrams	STV$0606ADJA bill of materials

1. *This code identifies the STEVAL-0606YADJ evaluation board first version.*

Revision history

Table 2. **Document revision history**

Date	Revision	Changes
03-Apr-2025	1	Initial release.