

Product Overview

NCV890201: Automotive Switching Regulator, Buck, 2 A, 2 MHz

For complete documentation, see the data sheet.



The NCV890201 is a fixed-frequency, monolithic, Buck switching regulator intended for Automotive, battery-connected applications that must operate with up to a 36V input supply. The regulator is suitable for systems with low noise and small form factor requirements often encountered in automotive driver information systems. The NCV890201 is capable of converting the typical 4.5 V to 18 V automotive input voltage range to outputs as low as 3.3 V at a constant switching frequency above the sensitive AM band, eliminating the need for costly filters and EMI countermeasures. Two pins are provided to synchronize switching to a clock, or to another NCV890201. The NCV890201 also provides several protection features expected in Automotive power supply systems such as current limit, short-circuit protection and thermal shutdown. In addition, the high switching frequency produces low output voltage ripple even when using small inductor values and an all-ceramic output filter capacitor - forming a space-efficient switching regulator solution.

Features

- 2 MHz Free-running Switching Frequency
- Internal N-Channel Power Switch
- Low VIN Operation Down to 4.5 V
- High VIN Operation to 36 V
- Withstands Load Dump to 40 V
- Auto-synchronizes with Other NCV890201 or to an External Clock
- Logic level Enable Input Can be Directly Tied to Battery
- 2.2 A (min) Cycle-by-Cycle Peak Current Limit
- Short Circuit Protection Enhanced by Frequency Foldback
- $\pm 1.75\%$ Output Voltage Tolerance

For more features, see the data sheet

Benefits

- Enables the use of small, low-cost inductor and EMC filter

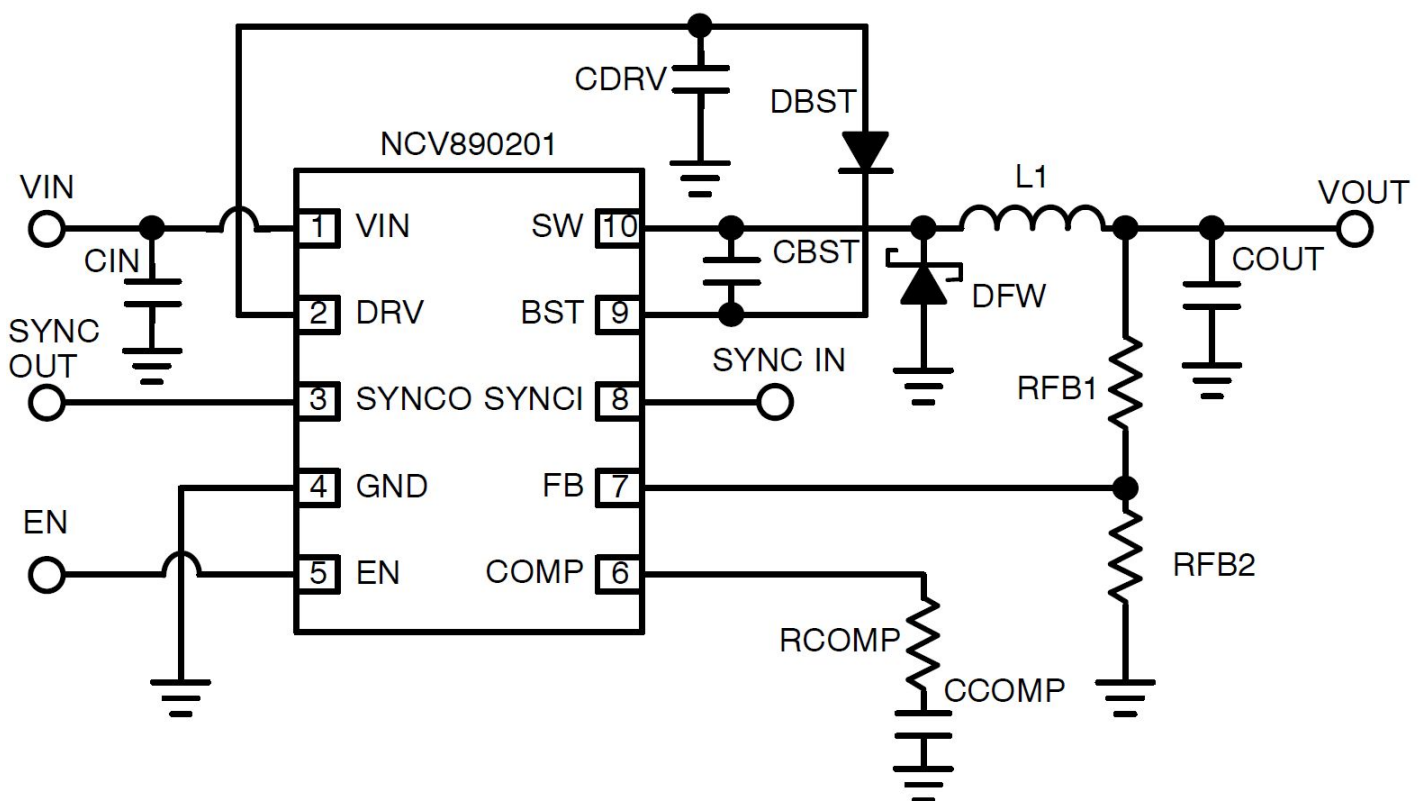
Applications

- Audio
- Infotainment

End Products

- Automotive

Application Diagram



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