



Product Overview

NCV890100: Automotive Switching Regulator, Buck, 1.2 A, 2 MHz

For complete documentation, see the [data sheet](#)

Product Description

The NCV890100 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 NCV890100 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.

The NCV890100 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 V_{IN} Operation Down to 4.5 V
- High V_{IN} Operation Up to 36 V
- Withstands Load Dumps to 40 V
- Logic level Enable Input Can be Directly Tied to Battery
- 1.4 A (min) Cycle-by-Cycle Peak Current Limit
- Short-Circuit Protection enhanced by Frequency Foldback
- $\pm 1.75\%$ Output Voltage Tolerance
- Output Voltage Adjustable Down to 0.8 V

Benefits

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

Applications

- Audio
- Infotainment
- Safety - Vision Systems
- Dashboards

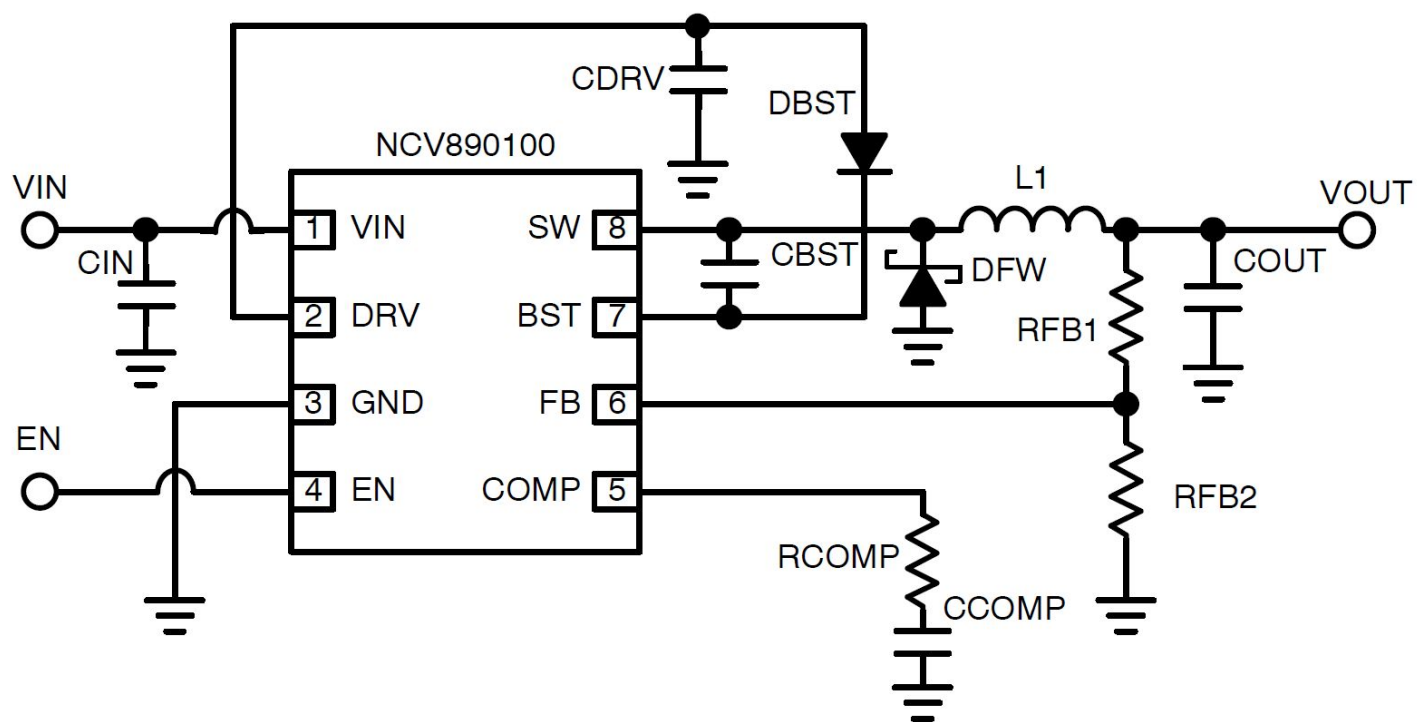
End Products

- Automotive

Part Electrical Specifications

| Product | Compliance | Status | Topology | Control Mode | V_{CC} Min (V) | V_{CC} Max (V) | V_O Typ (V) | I_O Typ (A) | Efficiency (%) | f_{SW} Typ (kHz) | Package Type |
|----------------|--|--------|-----------|--------------|------------------|------------------|---------------|---------------|----------------|--------------------|--------------|
| NCV890100MWTXG | AEC Qualified PPAP Capable Pb-free | Active | Step-Down | | 4.5 | 40 | Adjustable | 1.2 | | 2250 | DFN-8 |
| NCV890100PDR2G | AEC Qualified PPAP Capable Pb-free | Active | Step-Down | | 4.5 | 40 | Adjustable | 1.2 | | 2250 | SOIC-8 EP |

Application Diagram



For more information please contact your local sales support at www.onsemi.com

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