NCV890430

Automotive 0.6 A 2 MHz 100% Duty Cycle Step-Down Synchronous Regulator

Product Overview

For complete documentation, see the data sheet.

The NCV890430 is a fixed-frequency Synchronous Buck regulator intended for Automotive, battery-connected applications that operate with up to a 45 V input supply. It is suitable for automotive systems requiring low noise and low shutdown currents that also need to operate at low input voltage close to the output voltage. A reset pin (with adjustable delay) simplifies interfacing with a microcontroller. This part also features an enable input that can either be connected to a low voltage (such as a micro-controller output) or high voltage (such as the battery input), and a synchronization input. The NCV890430 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 all-ceramic input output filter capacitors - forming a space-efficient switching regulator solution.

Features

- Internal 550 mΩ P Channel and 300 mΩ N-Channel Power Switches
- Capable of 100% Duty Cycle Operation
- VIN operating range of 3.5 V to 37 V
- Withstands Load Dump to 45 V
- 2 MHz Free-Running Switching Frequency
- Shutdown Current Less than 10 µA
- High Voltage Enable Pin
- Synchonization Input Pin
- Maximum DC Output Current of at least 0.6A
- Fixed Output Voltage (5.0 V, 3.3 V and 2.5 V Versions)
  For more features, see the data sheet

Applications

- Automotive Infotainment and Instrumentation
- Automotive Body Applications
- Linear Regulator Replacement
- Rear View Camera

End Products

- Automotive

Part Electrical Specifications

Product	Pricing ($/Unit)	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
NCV890430MW50TXG	0.9	A P Pb H	Active	Step-Down	Current Mode	3.5	45	5	0.6	74	2000	DFN-8