

## NCV8852

# P-Channel, 100% Duty Cycle, Non-Synchronous Buck Controller, Automotive Grade

## Product Overview

For complete documentation, see the data sheet.

The NCV8852 is an adjustable-output non-synchronous buck controller which drives an external P-channel MOSFET. The device uses peak current mode control with internal slope compensation. The IC incorporates an internal regulator that supplies charge to the gate driver. Protection features include internal soft-start, undervoltage lockout, cycle-by-cycle current limit, hiccup-mode overcurrent protection, hiccup-mode short-circuit protection. Additional features include programmable switching frequency, low quiescent current sleep mode and externally synchronizable switching frequency.

### Features

- Peak Current Mode Control with Internal Slope Compensation
  - 0.8 V 2% Reference Voltage
  - Wide Input Voltage Range of 3.1 V to 36 Vdc, 44 V Load Dump
  - Input Undervoltage Lockout (UVLO)
  - Internal Soft-Start
  - Low Quiescent Current in Sleep Mode
  - Programmable Fixed Frequency 170 kHz to 500 kHz
  - External Clock Synchronization up to 600 kHz
  - Cycle-by-cycle Current Limit Protection (CL)
  - Hiccup-mode Short-Circuit Protection (SCP)
- For more features, see the data sheet

### Benefits

- Good transient response over a wide input voltage range
- Accurate voltage regulation
- Works in a wide variety of applications
- Disables start-up in undervoltage conditions
- Lowers inrush current and avoids output overshoot during start-up
- Very low sleep current
- Allows for design flexibility
- Allows for frequency synchronization and spread spectrum operation
- Protects against over current conditions
- Protects against short circuit faults

### Applications

- Automotive Infotainment
- Instrumentation
- Clusters

### End Products

- Automotive Systems

Part Electrical Specifications										
Product	Pricing (\$/Unit)	Compliance	Status	Topology	Phases	Control Mode	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	f <sub>sw</sub> Typ (kHz)	Package Type
NCV885201D1R2G	1.15		Active	Step-Down	1	Current Mode	3.1	44	170	SOIC-8