

## Product Overview

### NCV8853: Automotive Grade Non-Synchronous Buck Controller

For complete documentation, see the data sheet.

The NCV8853 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
  - Power Good (PG)
  - 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
- Simple digital power monitoring
- 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	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
NCV885301D1R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Step-Down	1	Current Mode	3.1	44	340	SOIC-8

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