

Product Overview

NCV8870: Non-Synchronous Boost Controller, Automotive Grade

For complete documentation, see the data sheet.

The NCV8870 is an adjustable output non-synchronous boost controller which drives an external N-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 internally-set soft-start, undervoltage lockout, cycle-by-cycle current limiting, hiccup-mode short-circuit protection and thermal shutdown. Additional features include low quiescent current sleep mode and externally-synchronizable switching frequency.

Features

- Peak Current Mode Control with Internal Slope Compensation
- 1.2 V 2% Reference voltage
- Wide Input Voltage Range of 3.2 V to 40 Vdc, 45 V Load Dump
- Input undervoltage lockout (UVLO)
- Internal SoftStart
- Low quiescent current in sleep mode
- Cycle-by-cycle current limit protection
- Hiccup-mode short-circuit protection (SCP)
- Thermal shutdown (TSD)

Applications

- Start-Stop systems
- SEPIC (Non-inverting Buck Boost)
- Direct Gas Injection

Benefits

- Good transient response over a wide input voltage and load range
- Accurate voltage regulation
- Works in a wide variety of applications
- Disables start up in undervoltage conditions
- Decreases inrush current
- Very low off current
- Protects against over current conditions
- Protects against short circuit faults
- Thermally protects IC

End Products

- Automotive Systems

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Phases	Control Mode	V _{CC} Min (V)	V _{CC} Max (V)	f _{sw} Typ (kHz)	Package Type
NCV887001D1R2G	0.6667	AEC Qualified PPAP Capable Pb-free Halide free	Active	Step-Up Step-Up/Step-Down	1	Current Mode	3.2	45	100	SOIC-8

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

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