

Product Overview

NCV890204: Automotive Switching Regulator, Buck, 2.0 A, 2 MHz, Spread Spectrum

For complete documentation, see the data sheet.

The NCV890204 is a fixed-frequency, monolithic, Buck switching regulator intended for Automotive, battery-connected applications that must operate with up to a 36 V input supply. The regulator is suitable for systems with low noise and small form factor requirements often encountered in automotive driver information systems. The NCV890204 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. A Reset pin signals when the output is in regulation, and a pin is provided to adjust the delay before the RSTB signal goes high. The NCV890204 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

- Adjustable Spread Spectrum
- Internal N-Channel Power Switch
- Low VIN Operation Down to 4.5 V
- High VIN Operation to 36 V
- Withstands Load Dump to 40 V
- 2 MHz Free-running Switching Frequency
- Reset with Adjustable Delay
- Logic level Enable Input Can be Directly Tied to Battery
- 2.2 A (min) Cycle-by-Cycle Peak Current Limit
- Short Circuit Protection enhanced by Frequency Foldback

For more features, see the data sheet

Benefits

- EMI Reduction

Applications

- Audio
- Infotainment
- Safety – Vision Systems
- Instrumentation

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
NCV890204MWR2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Step-Down	Current Mode	4.5	40	Variable	2	-	2000	DFN-12

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

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