



Product Overview

NCV8501: Linear Voltage Regulator, LDO, 150 mA, with Enable, Delay, Reset and Monitor Flag

For complete documentation, see the data sheet

Product Description

The NCV8501 is a family of precision micropower voltage regulators with 150mA output current capability. The family has output voltage options for adjustable, 2.5 V, 3.3 V, 5.0 V, 8.0 V, and 10 V that are accurate within $\pm 2.0\%$. Maximum dropout voltage reaches 0.6 V at full load. Low quiescent current is a feature drawing only 90 μ A with a 100 μ A load. This part is ideal for all battery operated microprocessor equipment.

Microprocessor control logic includes an active RESET (with DELAY), and a flag monitor which can be used to provide an early warning signal to the microprocessor of a potential impending RESET signal. The use of the flag monitor allows the microprocessor to finish any signal processing before the RESET shuts the microprocessor down. The active RESET circuit operates correctly at an output voltage as low as 1.0 V. The RESET function is activated during the power up sequence or during normal operation if the output voltage drops outside the regulation limits.

The regulator is protected against reverse battery, short circuit, and thermal overload conditions. The device can withstand load dump transients making it suitable for use in automotive environments.

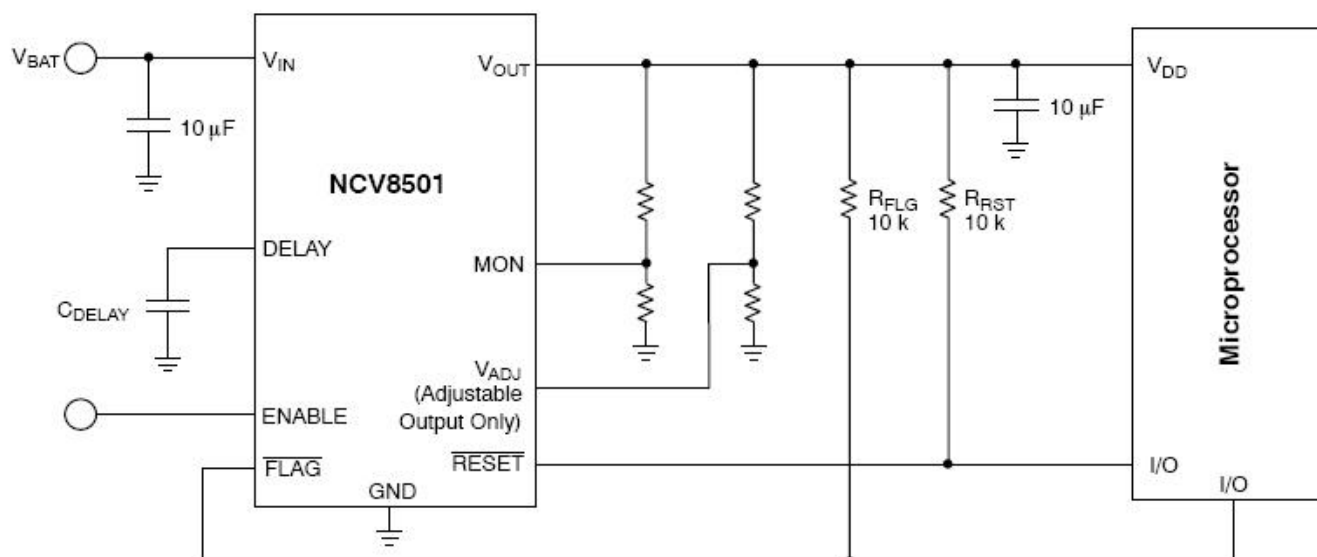
Features	Benefits
<ul style="list-style-type: none">Output Voltage Options: Adjustable, 2.5 V, 3.3 V, 5.0 V, 8.0 V, 10 V with +/-2% accuracy / 150mA Output CurrentReset with Adjustable Delay ResetEnableEarly Warning through Flag/Monitor Leads or General Use ComparatorFault Protections<ul style="list-style-type: none">+60 V Peak Transient Voltage-15 V Reverse VoltageShort CircuitThermal OverloadAEC-Q100 Qualified	<ul style="list-style-type: none">Tight regulation limitsMPU control - design flexibilityLower quiescent current when shut down allowing low standby battery drainSystem benefits and design flexibilityLimit number of external components:<ul style="list-style-type: none">Robust load dump toleranceReverse battery protectionSelf protectionSelf protection

Applications	End Products
<ul style="list-style-type: none">Body and ChassisEngine Control UnitPowertrain	<ul style="list-style-type: none">Automotive

Part Electrical Specifications

Product	Compliance	Status	Output	Polarity	V _O (V)	I _O Typ (A)	V _I Max (V)	V _{DO} Typ (V)	I _a Typ (mA)	PSRR (dB)	Noise (μV _{rms})	Package Type
NCV8501D100R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	10	0.15	45	0.4	0.1	55		SOIC-8
NCV8501D33R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	45	0.4	0.09	55		SOIC-8
NCV8501D50R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	45	0.4	0.09	55		SOIC-8
NCV8501D80R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	8	0.15	45	0.4	0.1	55		SOIC-8
NCV8501DADJR2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	Adjustable	0.15	45	0.4	0.05	55		SOIC-8
NCV8501PDW33R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	45	0.4	0.09	55		SOIC-16W EP
NCV8501PDW50R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	45	0.4	0.09	55		SOIC-16W EP
NCV8501PDW80R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	8	0.15	45	0.4	0.1	55		SOIC-16W EP

Application Diagram



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

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