



Product Overview

NCV8502: Linear Voltage Regulator, LDO, 150 mA, with Delay, Adjustable Reset and Monitor Flag

[For complete documentation, see the data sheet](#)

Product Description

The NCV8502 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 reached 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 reset threshold voltage can be decreased by the connection of external resistor divider to R_{ADJ} lead.

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

- 2.5V, 3.3V, 5.0V, 8.0V, 10.0V or Adjustable $\pm 2\%$ Output Voltage / 150mA output current
- Reset with Adjustable Delay Reset and Adjustable Threshold
- Early Warning through Flag/Monitor Leads or General Use Comparator
- Integrated protections:
 - 60V Peak Transient Voltage
 - 15V Reverse Voltage
 - Short Circuit Protection
 - Thermal Overload Protection
- PPAP Capable
- AEC Qualified
- Pb-Free Packages are Available

Benefits

- Tight regulation limits
- MPU control - versatile reset control
- System benefits and design flexibility
- Limit number of external components:
 - Robust load dump tolerance
 - Reverse battery protection
 - Self protection
 - Self protection

Applications

- Powertrain
- Engine Control Unit
- Body and Chassis

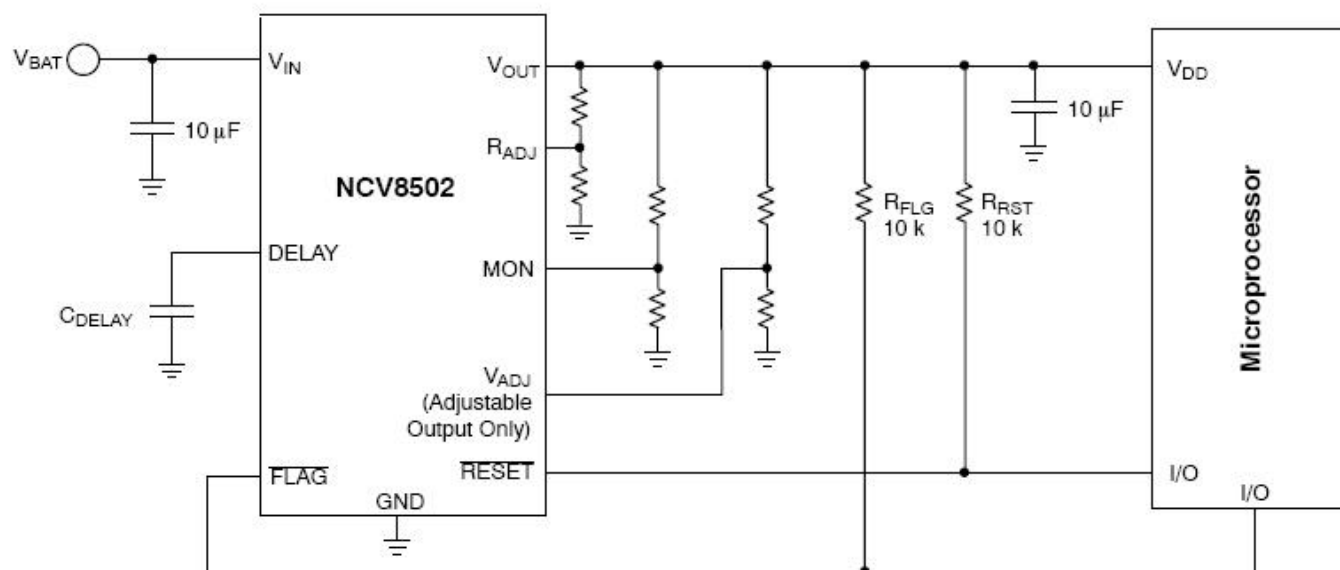
End Products

- 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_q Typ (mA)	PSRR (dB)	Noise (μV_{rms})	Package Type
NCV8502D33R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	45	0.4	0.09			SOIC-8
NCV8502D50R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	45	0.4	0.09			SOIC-8
NCV8502DADJR2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	Adjustable	0.15	45	0.4	0.05			SOIC-8
NCV8502PDW33R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	45	0.4	0.09			SOIC-16W EP
NCV8502PDW50R2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	45	0.4	0.09			SOIC-16W EP
NCV8502PDWADJR2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	Adjustable	0.15	45	0.4	0.05			SOIC-16W EP

Application Diagram



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

Created on: 7/11/2015