

## Product Overview

### NCV8730: LDO Regulator, 150 mA, 38 V, 1 $\mu$ A IQ, with PG

For complete documentation, see the data sheet.

The NCV8730 device is based on unique combination of features - very low quiescent current, fast transient response and high input and output voltage ranges. The NCV8730 is CMOS LDO regulator designed for up to 38 V input voltage and 150 mA output current. Quiescent current of only 1  $\mu$ A makes this device ideal solution for battery- powered, always-on systems. Several fixed output voltage versions are available as well as the adjustable version.

The device (version B) implements power good circuit (PG) which indicates that output voltage is in regulation. This signal could be used for power sequencing or as a Microcontroller reset.

Internal short circuit and over temperature protections saves the device against overload conditions.

#### Features

- Operating Input Voltage Range: 2.7 V to 38 V
- Output Voltage: 1.2 V to 24 V
- Capable of Sourcing 200 mA Peak Output Current
- Low Shutdown Current: 100 nA typ.
- Very Low Quiescent Current: 1  $\mu$ A typ.
- Low Dropout: 290 mV typ. at 150 mA, 3.3 V Version
- Output Voltage Accuracy  $\pm$ 1%
- Power Good Output (Version B)
- Stable with Small 1  $\mu$ F Ceramic Capacitors
- Built-in Soft Start Circuit

For more features, see the data sheet

#### Applications

- MCU/analog power supply from higher voltage internal rail
- Power supply for gate driver

#### Benefits

- Wide input voltage range
- Wide output voltage range
- The 150 mA device is able to cover 200 mA current peak demands
- Low current consumption in shutdown state
- Low current consumption in no load state
- Small  $V_{in}$  -  $V_{out}$  difference is enough for regulation
- Very good precision of output voltage
- Additional feature for  $V_{out}$  monitoring
- Just a small bypass capacitor is needed
- Suppresses Inrush Current

#### End Products

- LED Lighting
- Infotainment Systems (AVN)
- On Board Charger
- Telematics
- General Purpose Automotive

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Output	Polarity	V <sub>o</sub> (V)	I <sub>o</sub> Typ (A)	V <sub>i</sub> Min (V)	V <sub>i</sub> Max (V)	V <sub>DO</sub> Typ (V)	I <sub>g</sub> Typ (mA)	PSR R (dB)	Noise (μV <sub>rms</sub> )	Enable	Power Good	Application	Package Type
NCV8730ASN180T1G	0.276	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.7	38	0.29	0.0013	70	180	Yes	No	Automotive	TSO P-5 / SOT-23-5
NCV8730ASN330T1G	0.276	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.7	38	0.29	0.0013	70	330	Yes	No	Automotive	TSO P-5 / SOT-23-5
NCV8730ASN500T1G	0.276	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	2.7	38	0.29	0.0013	70	500	Yes	No	Automotive	TSO P-5 / SOT-23-5
NCV8730ASNADJT1G	0.276	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	1.2-24	0.15	2.7	38	0.29	0.0013	70	120-2400	Yes	No	Automotive	TSO P-5 / SOT-23-5
NCV8730BMTW1500TB G	0.3227	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	15	0.15	2.7	38	0.29	0.0013	70	1500	Yes	Yes	Automotive	WDF NW-6
NCV8730BMTW330TB G	0.3227	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.7	38	0.29	0.0013	70	330	Yes	Yes	Automotive	WDF NW-6
NCV8730BMTW500TB G	0.3227	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	5	0.15	2.7	38	0.29	0.0013	70	500	Yes	Yes	Automotive	WDF NW-6
NCV8730BMTWADJT B G	0.3227	AEC Qualified PPAP Capable Pb-free Halide free	Active	Single	Positive	1.2-24	0.15	2.7	38	0.29	0.0013	70	120-2400	Yes	Yes	Automotive	WDF NW-6

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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