

## Product Overview

### NCP702: LDO Regulator, 200 mA, Ultra-Low Dropout, Ultra-Low Iq, High PSRR, Ultra-Low Noise

For complete documentation, see the data sheet.

Noise sensitive applications such as Phase Locked Loops, Oscillators, Frequency Synthesizers, Low Noise Amplifiers and other Precision Instrumentation require very clean power supplies. The NCP702 is a 200 mA LDO that provides the engineer with a very stable, accurate voltage with ultra-low noise and very high Power Supply Rejection Ratio (PSRR), making it suitable for RF applications. The device doesn't require an additional noise bypass capacitor to achieve ultra-low noise performance. In order to optimize performance for battery operated portable applications, the NCP702 employs an Adaptive Ground Current feature for ultra-low ground current consumption during light-load conditions.

#### Features

- Operating Input Voltage Range: 2.0V to 5.5V
  - Ultra-Low Output Noise: Typ. 11 $\mu$ Vrms from 100Hz to 100kHz
  - Ultra-Low No-Load Ground Current of Typ. 10 $\mu$ A
  - Adaptive Ground Current Feature
  - High Ripple Rejection Ratio: Typ. 70dB @ 1kHz
  - Stable with small 1 $\mu$ F ceramic output capacitor
  - Available Fixed Output Voltage Options: 0.8V to 3.5V
  - Output voltage trimming step: 2.5mV
  
  - Enable/Shutdown Pin Function
  - Ultra-Low Shutdown Mode Current: Max. 1 $\mu$ A
- For more features, see the data sheet

#### Applications

- High-Frequency Precision Clock Supplies
- PLL, VCO, TCXO Power Supplies
- GPS Receiver Section Supply
- WLAN Transceiver Power
- Touchscreen Controller Supply

#### Benefits

- Well suited for battery powered applications
- Very well suited for noise sensitive applications
  
- Improved efficiency during light-load conditions
- Improved dynamic performance
- Effectively filters the supply line noise
- Small solution size
- Sub-bandgap output voltages available
- Output voltage can be trimmed precisely according to specific customer needs
- Allows to turn ON/OFF the Regulator using logic I/O signal
- Minimizes battery drain when placed in the Shutdown Mode

#### End Products

- Smartphone
- Digital Camera
- Tablet
- Portable DVD/Media Player
- Wireless Headset

## 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>q</sub> Typ (mA)	PSR R (dB)	Noise (μV <sub>rms</sub> )	Enable	Power Good	Package Type
NCP702MX18TCG	0.288	Pb-free Halide free	Active	Single	Positive	1.8	0.2	2	5.5	0.14	0.01	70	11	Yes	No	XDF N-6
NCP702MX28TCG	0.288	Pb-free Halide free	Active	Single	Positive	2.8	0.2	2	5.5	0.14	0.01	70	11	Yes	No	XDF N-6
NCP702MX30TCG	0.288	Pb-free Halide free	Active	Single	Positive	3	0.2	2	5.5	0.14	0.01	70	11	Yes	No	XDF N-6
NCP702MX33TCG	0.288	Pb-free Halide free	Active	Single	Positive	3.3	0.2	2	5.5	0.14	0.01	70	11	Yes	No	XDF N-6
NCP702SN18T1G	0.2773	Pb-free Halide free	Active	Single	Positive	1.8	0.2	2	5.5	0.14	0.01	70	11	Yes	No	TSO P-5 / SOT-23-5
NCP702SN28T1G	0.2773	Pb-free Halide free	Active	Single	Positive	2.8	0.2	2	5.5	0.14	0.01	70	11	Yes	No	TSO P-5 / SOT-23-5
NCP702SN30T1G	0.2773	Pb-free Halide free	Active	Single	Positive	3	0.2	2	5.5	0.14	0.01	70	11	Yes	No	TSO P-5 / SOT-23-5
NCP702SN31T1G	0.2773	Pb-free Halide free	Active	Single	Positive	3.1	0.2	2	5.5	0.14	0.01	70	11	Yes	No	TSO P-5 / SOT-23-5
NCP702SN33T1G	0.2773	Pb-free Halide free	Active	Single	Positive	3.3	0.2	2	5.5	0.14	0.01	70	11	Yes	No	TSO P-5 / SOT-23-5

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

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