



## Product Overview

### NCP4588: Linear Voltage Regulator, LDO, Output Capacitor Free, 200 mA

For complete documentation, see the data sheet

#### Product Description

The NCP4588 is a CMOS 200mA LDO which is stable without an output capacitor. This results in a reduction in component count, cost and board area, as well as contributing to a more robust solution in hostile environments. With quiescent current  $< 9.5 \mu\text{A}$  and PSRR  $> 60 \text{ dB}$ , the device is an excellent trade off between the two features. The family is available in a variety of packages: SC-70-5 (SC88A), SOT23-5 and a small, ultra thin  $1.2 \times 1.2 \times 0.4 \text{ mm}$  XDFN. The device output voltage range is 1.0 to 4.2 V with voltage outputs available in 0.1 V steps - contact your local sales office with your specific output voltage requirement.

#### Features

- Low  $I_q$ : 9.5  $\mu\text{A}$  (typical)
- Good PSRR: 70dB  $V_o < 1.22$  to 60dB at  $V_o > 2.2\text{V}$
- Low Dropout: 270 mV typical
- Auto-discharge feature available

#### Benefits

- Well suited to low power or battery powered products
- Good rejection of noise or ripple introduced on the input of the regulator
- $V_{in}$  can be close to  $V_{out}$  meaning less power dissipated across the regulator.
- Pulls output low when the device is disabled ensuring quick switchoff

#### Applications

- Power Supply, POL, filtering

#### End Products

- HDD, STB, DVD players
- Industrial meters, Smart meters
- Cameras

#### 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 ( $\mu\text{V}_{\text{rms}}$ )	Package Type
NCP4588DMX10TCG	Pb-free Halide free	Active	Single	Positive	1	0.2	5.3	0.27	0.0095	70	80	XDFN-6
NCP4588DMX15TCG	Pb-free Halide free	Active	Single	Positive	1.5	0.2	5.3	0.27	0.0095	70	80	XDFN-6
NCP4588DMX25TCG	Pb-free Halide free	Active	Single	Positive	2.5	0.2	5.3	0.27	0.0095	70	80	XDFN-6
NCP4588DSQ10T1G	Pb-free Halide free	Active	Single	Positive	1	0.2	5.3	0.27	0.0095	70	80	SC-88A-5 / SC-70-5 / SOT-323-5
NCP4588DSQ15T1G	Pb-free Halide free	Active	Single	Positive	1.5	0.2	5.3	0.27	0.0095	70	80	SC-88A-5 / SC-70-5 / SOT-323-5
NCP4588DSQ25T1G	Pb-free Halide free	Active	Single	Positive	2.5	0.2	5.3	0.27	0.0095	70	80	SC-88A-5 / SC-70-5 / SOT-323-5

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

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