



## Product Overview

### NCP511: Linear Voltage Regulator, LDO, CMOS Low I<sub>q</sub>, 150 mA

For complete documentation, see the data sheet

#### Product Description

The NCP511 fixed output Low Quiescent Current Low Dropout (LDO) Linear Voltage Regulator is designed for handheld communication equipment and portable battery powered applications which require low quiescent current. The NCP511 features an ultra-low quiescent current of 40  $\mu$ A. Each LDO linear voltage regulator contains a voltage reference unit, an error amplifier, a PMOS power transistor, resistors for setting output voltage, current limit and temperature limit protection circuits.

The NCP511 has been designed to be used with low cost ceramic capacitors and requires a minimum output capacitor of 1.0  $\mu$ F. The LDO is housed in the micro-miniature TSOP-5 surface mount package. Standard voltage versions are 1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.3, and 5.0 V. Other voltages are available in 100 mV steps.

#### Features

- Low Quiescent Current of 40  $\mu$ A Typical
- Low Dropout Voltage of 100 mV at 100 mA
- Excellent Line and Load Regulation
- Maximum Operating Voltage of 6.0 V
- Low Output Voltage Option
- High Accuracy Output Voltage of 2.0%
- Industrial Temperature Range of -40°C to 85°C
- Pb-Free Packages are Available

#### Applications

- Cellular Phones
- Battery Powered Instruments
- Hand-Held Instruments
- Camcorders and Cameras

#### Part Electrical Specifications

Product	Compliance	Status	Output	Polarity	V <sub>O</sub> (V)	I <sub>O</sub> Typ (A)	V <sub>I</sub> Max (V)	V <sub>DO</sub> Typ (V)	I <sub>q</sub> Typ (mA)	PSRR (dB)	Noise ( $\mu$ V <sub>rms</sub> )	Package Type
NCP511SN15T1G	Pb-free Halide free	Active	Single	Positive	1.5	0.15	6	0.245				TSOP-5 / SOT-23-5
NCP511SN18T1G	Pb-free Halide free	Active	Single	Positive	1.8	0.15	6	0.16				TSOP-5 / SOT-23-5
NCP511SN25T1G	Pb-free Halide free	Active	Single	Positive	2.5	0.15	6	0.11				TSOP-5 / SOT-23-5
NCP511SN27T1G	Pb-free Halide free	Active	Single	Positive	2.7	0.15	6	0.1				TSOP-5 / SOT-23-5
NCP511SN28T1G	Pb-free Halide free	Active	Single	Positive	2.8	0.15	6	0.1				TSOP-5 / SOT-23-5
NCP511SN30T1G	Pb-free Halide free	Active	Single	Positive	3	0.15	6	0.1				TSOP-5 / SOT-23-5
NCP511SN33T1G	Pb-free Halide free	Active	Single	Positive	3.3	0.15	6	0.09				TSOP-5 / SOT-23-5
NCP511SN50T1G	Pb-free Halide free	Active	Single	Positive	5	0.15	6	0.075				TSOP-5 / SOT-23-5

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