

## Product Overview

### NCP161: LDO Regulator, Ultra-Low Noise and High PSRR, 450 mA

For complete documentation, see the data sheet.

The NCP161 is a linear regulator capable of supplying 450 mA output current. Designed to meet the requirements of RF and analog circuits, the NCP161 device provides low noise, high PSRR, low quiescent current, and very good load/line transients. The device is designed to work with a 1 $\mu$ F input and a 1 $\mu$ F output ceramic capacitor. It is available in two thickness ultra-small 0.35P, 0.65 mm x 0.65 mm Chip Scale Package (CSP) and XDFN-4 0.65P, 1 mm x 1 mm.

#### Features

- Ultra High PSRR 90dB at 1kHz, 20mA
- Ultra Low Output Noise 10 $\mu$ V<sub>RMS</sub>
- Very Low Dropout 80mV@250mA
- Operating Input Voltage Range 1.9V to 5.5V
- Ultra Low Quiescent current 18 $\mu$ A
- Available in CSP4 0.35P package

#### Applications

- RF Modules
- Battery Powered Equipment
- A/D and D/A Converters Power supply
- Camera module
- Precision Analog Circuits

#### Benefits

- Excellent for power sensitive device like Wi-Fi module
- Very well suited for noise sensitive application
- Allow work with very low  $V_{IN}-V_{OUT}$  difference
- Suitable for battery powered device
- Improved efficiency during light load conditions
- Great for space constrains application

#### End Products

- Tablets
- Cameras and camcoders
- Smartphones
- Wireless Routers



Product	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)	PSRR (dB)	Noise (μV <sub>rms</sub> )	Enable	Power Good	Package Type
NCP161AFCS180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS285T2G	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS300T2G	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS320T2G	Pb-free Halide free	Active	Single	Positive	3.2	0.45	1.9	5.5	0.155	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS350T2G	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS450T2G	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS500T2G	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCS514T2G	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT185T2G	Pb-free Halide free	Active	Single	Positive	1.85	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT285T2G	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT290T2G	Pb-free Halide free	Active	Single	Positive	2.9	0.45	1.9	5.5	0.163	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT300T2G	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT310T2G	Pb-free Halide free	Active	Single	Positive	3.1	0.45	1.9	5.5	0.16	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT350T2G	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT450T2G	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT500T2G	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCT514T2G	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCTC280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	WLCS P-4
NCP161AFCTC350T2G	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4

NCP161AMX180TBG	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	XDFN-4
NCP161AMX250TBG	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	XDFN-4
NCP161AMX280TBG	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	XDFN-4
NCP161AMX285TBG	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	XDFN-4
NCP161AMX300TBG	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	XDFN-4
NCP161AMX320TBG	Pb-free Halide free	Active	Single	Positive	3.2	0.45	1.9	5.5	0.155	0.018	98	10	Yes	No	XDFN-4
NCP161AMX330TBG	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	XDFN-4
NCP161AMX350TBG	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	XDFN-4
NCP161AMX450TBG	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	XDFN-4
NCP161AMX500TBG	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	XDFN-4
NCP161AMX514TBG	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	XDFN-4
NCP161BFCS180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS285T2G	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS300T2G	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS350T2G	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS450T2G	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS500T2G	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCS514T2G	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT185T2G	Pb-free Halide free	Active	Single	Positive	1.85	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT285T2G	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT300T2G	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	WLCS P-4

NCP161BFCT330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT350T2G	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT450T2G	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT500T2G	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161BFCT514T2G	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	WLCS P-4
NCP161BMX180TBG	Pb-free Halide free	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX250TBG	Pb-free Halide free	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX280TBG	Pb-free Halide free	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX285TBG	Pb-free Halide free	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX300TBG	Pb-free Halide free	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX330TBG	Pb-free Halide free	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX350TBG	Pb-free Halide free	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX450TBG	Pb-free Halide free	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX500TBG	Pb-free Halide free	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	XDFN- 4
NCP161BMX514TBG	Pb-free Halide free	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	XDFN- 4

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