

## Product Overview

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

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), XDFN-4 0.65P, 1 mm x 1 mm and TSOP5 packages.

#### Similar Products:

	<a href="#">NCP160</a>	<a href="#">NCP161</a>	<a href="#">NCP163</a>	<a href="#">NCP167</a>
Output Current (A)	0.25	0.45	0.25	0.70
PSRR f=1 kHz (dB)	98	98	92	85
Dropout Voltage (V)	0.080	0.150	0.080	0.210

#### Features

- Ultra High PSRR 98dB at 1kHz, 48dB at 100kHz
- Ultra Low Output Noise 10  $\mu$ VRMS
- Ultra Low Quiescent current 18  $\mu$ A
- Operating Input Voltage Range 1.9V to 5.5V
- Very Low Dropout 150mV at 450mA
- Available in CSP4 0.35P and XDFN4 0.65P package
- Available in industry standard TSOP5 package

#### Applications

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

#### Benefits

- Excellent for power sensitive device like Wi-Fi module
- Very well suited for noise sensitive application
- Improved efficiency during light load conditions
- Suitable for battery powered device
- Low power dissipation at full load
- Great for space constrains application
- Suitable for industrial applications

#### End Products

- Cameras and camcoders
- Smartphones
- Tablets
- Wireless Routers

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Output	Polarity	V <sub>o</sub> (V)	I <sub>o Typ</sub> (A)	V <sub>i Min</sub> (V)	V <sub>i Max</sub> (V)	V <sub>Do Typ</sub> (V)	I <sub>q Typ</sub> (mA)	PSR R (dB)	Noise (μV <sub>rms</sub> )	Enable	Power Good	Application	Package Type
NCP161AFCS180T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS250T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS280T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS285T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS300T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS320T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.2	0.45	1.9	5.5	0.155	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS330T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS350T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS450T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS500T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCS514T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCT180T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCT185T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.85	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCT250T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCT280T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	WLCSP-4
NCP161AFCT285T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	Consumer	WLCSP-4

NCP161AFCT290T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.9	0.45	1.9	5.5	0.163	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT300T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT310T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.1	0.45	1.9	5.5	0.16	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT330T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT350T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT450T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT500T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCT514T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCTC280T2G		Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AFCTC350T2G		Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161AMX180TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX185TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.85	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX250TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX280TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX285TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX300TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX320TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.2	0.45	1.9	5.5	0.155	0.018	98	10	Yes	No	Consumer	XDF N-4

NCP161AMX330TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX350TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX450TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX500TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161AMX514TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5.14	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	XDF N-4
NCP161ASN180T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN250T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN280T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN300T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN330T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.3	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN350T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3.5	0.45	1.9	5.5	0.15	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161ASN500T1G	0.1133	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	5	0.45	1.9	5.5	0.105	0.018	98	10	Yes	No	Consumer	SOT- 23-5
NCP161BFCS180T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161BFCS250T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.5	0.45	1.9	5.5	0.19	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161BFCS280T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.8	0.45	1.9	5.5	0.175	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161BFCS285T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	2.85	0.45	1.9	5.5	0.17	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161BFCS300T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	3	0.45	1.9	5.5	0.165	0.018	98	10	Yes	No	Consumer	WLC SP-4

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NCP161BFCS450T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	4.5	0.45	1.9	5.5	0.12	0.018	98	10	Yes	No	Consumer	WLC SP-4
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NCP161BFCT180T2G	0.0635	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLC SP-4
NCP161BFCT185T2G	0.0697	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.85	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	WLC SP-4
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NCP161BMX180TBG	0.0777	Pb-free Halide free non AEC-Q and PPAP	Active	Single	Positive	1.8	0.45	1.9	5.5	0.3	0.018	98	10	Yes	No	Consumer	XDF N-4

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

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