

Product Overview

NCP170: LDO Regulator, 150 mA, Ultra-Low Iq

For complete documentation, see the data sheet.

The NCP170 series of CMOS low dropout regulators are designed specifically for portable battery-powered applications which require ultra-low quiescent current. The ultra-low consumption of typ. 500 nA ensures long battery life and dynamic transient boost feature improves device transient response for wireless communication applications. The device is available in small 1 × 1 mm xDFN4, TSOP5 and SOT-563 packages.

Features

- Ultra Low Quiescent current 500nA
- Very Low Dropout, 170mV at 150mA
- Adaptive ground current proportional to load current
- Wide Input Voltage Range 2.2V to 5.5V
- Small packages 1x1 mm XDFN4, SOT-563 and TSOP-5
- Factory trimmed High output Voltage Accuracy +/- 1%

Applications

- Long life Battery Powered applications
- Portable Communication Equipment
- Sensor Node for IoT
- Wearable devices
- Energy Harvesting

Benefits

- Improved battery life
- Low power dissipation at full load
- Improved battery life
- Suitable for battery powered applications
- Reduced area for space constraint applications
- Improved end product performance

End Products

- NB-IoT Module
- Cameras
- Wireless Sensor nodes
- Smoke detectors
- Smart Watch

Part Electrical Specifications

Product	Compliance	Status	Output	Polarity	V _O (V)	I _O Typ (A)	V _I Min (V)	V _I Max (V)	V _{DO} Typ (V)	I _Q Typ (mA)	PSRR (dB)	Noise (μV _{rms})	Enable	Power Good	Package Type
NCP170AMX120TCG	Pb-free Halide free	Active	Single	Positive	1.2	0.15	2.2	5.5		0.0005	57	85	Yes	No	XDFN-4
NCP170AMX135TCG	Pb-free Halide free	Active	Single	Positive	1.35	0.15	2.2	5.5		0.0005	57	85	Yes	No	XDFN-4
NCP170AMX150TCG	Pb-free Halide free	Active	Single	Positive	1.5	0.15	2.2	5.5		0.0005	57	90	Yes	No	XDFN-4
NCP170AMX170TCG	Pb-free Halide free	Active	Single	Positive	1.7	0.15	2.2	5.5		0.0005	57	90	Yes	No	XDFN-4
NCP170AMX180TBG	Pb-free Halide free	NEW	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	XDFN-4
NCP170AMX180TCG	Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	XDFN-4
NCP170AMX190TCG	Pb-free Halide free	Active	Single	Positive	1.9	0.15	2.2	5.5	0.34	0.0005	57	95	Yes	No	XDFN-4
NCP170AMX250TCG	Pb-free Halide free	Active	Single	Positive	2.5	0.15	2.2	5.5	0.24	0.0005	57	125	Yes	No	XDFN-4
NCP170AMX280TBG	Pb-free Halide free	NEW	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	XDFN-4
NCP170AMX280TCG	Pb-free Halide free	Active	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	XDFN-4
NCP170AMX285TCG	Pb-free Halide free	Active	Single	Positive	2.85	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	XDFN-4
NCP170AMX300TBG	Pb-free Halide free	NEW	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	125	Yes	No	XDFN-4
NCP170AMX300TCG	Pb-free Halide free	Active	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	XDFN-4
NCP170AMX310TCG	Pb-free Halide free	Active	Single	Positive	3.1	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	XDFN-4
NCP170AMX320TCG	Pb-free Halide free	Active	Single	Positive	3.2	0.15	2.2	5.5	0.19	0.0005	41	125	Yes	No	XDFN-4
NCP170AMX330TBG	Pb-free Halide free	NEW	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	XDFN-4
NCP170AMX330TCG	Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	XDFN-4
NCP170AMX360TCG	Pb-free Halide free	Active	Single	Positive	3.6	0.15	2.2	5.5	0.17	0.0005	38	130	Yes	No	XDFN-4
NCP170ASN120T2G	Pb-free Halide free	Active	Single	Positive	1.2	0.15	2.2	5.5		0.0005	57	85	Yes	No	TSOP-5 / SOT-23-5
NCP170ASN150T2G	Pb-free Halide free	NEW	Single	Positive	1.5	0.15	2.2	5.5		0.0005			Yes	No	TSOP-5 / SOT-23-5
NCP170ASN180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	TSOP-5 / SOT-23-5
NCP170ASN250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.15	2.2	5.5	0.24	0.0005	57	125	Yes	No	TSOP-5 / SOT-23-5
NCP170ASN280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	TSOP-5 / SOT-23-5
NCP170ASN300T2G	Pb-free Halide free	Active	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	TSOP-5 / SOT-23-5
NCP170ASN330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	TSOP-5 / SOT-23-5

NCP170AXV120T2G	Pb-free Halide free	Active	Single	Positive	1.2	0.15	2.2	5.5		0.0005	57	85	Yes	No	SOT5 63-6
NCP170AXV135T2G	Pb-free Halide free	Active	Single	Positive	1.35	0.15	2.2	5.5		0.0005	57	85	Yes	No	SOT5 63-6
NCP170AXV150T2G	Pb-free Halide free	Active	Single	Positive	1.5	0.15	2.2	5.5		0.0005	57	90	Yes	No	SOT5 63-6
NCP170AXV180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	SOT5 63-6
NCP170AXV190T2G	Pb-free Halide free	Active	Single	Positive	1.9	0.15	2.2	5.5	0.34	0.0005	57	95	Yes	No	SOT5 63-6
NCP170AXV210T2G	Pb-free Halide free	Active	Single	Positive	2.1	0.15	2.2	5.5	0.27	0.0005	57	105	Yes	No	SOT5 63-6
NCP170AXV250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.15	2.2	5.5	0.24	0.0005	57	125	Yes	No	SOT5 63-6
NCP170AXV280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	SOT5 63-6
NCP170AXV300T2G	Pb-free Halide free	Active	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	SOT5 63-6
NCP170AXV310T2G	Pb-free Halide free	Active	Single	Positive	3.1	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	SOT5 63-6
NCP170AXV330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	SOT5 63-6
NCP170AXV360T2G	Pb-free Halide free	NEW	Single	Positive	3.6	0.15	2.2	5.5	0.17	0.0005	30	130	Yes	No	SOT5 63-6
NCP170BMX120TCG	Pb-free Halide free	Active	Single	Positive	1.2	0.15	2.2	5.5		0.0005	57	85	Yes	No	XDFN- 4
NCP170BMX135TCG	Pb-free Halide free	Active	Single	Positive	1.35	0.15	2.2	5.5		0.0005	57	57	Yes	No	XDFN- 4
NCP170BMX150TCG	Pb-free Halide free	Active	Single	Positive	1.5	0.15	2.2	5.5		0.0005	57	90	Yes	No	XDFN- 4
NCP170BMX170TCG	Pb-free Halide free	Active	Single	Positive	1.7	0.15	2.2	5.5		0.0005	57	90	Yes	No	XDFN- 4
NCP170BMX180TCG	Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	XDFN- 4
NCP170BMX190TCG	Pb-free Halide free	Active	Single	Positive	1.9	0.15	2.2	5.5	0.34	0.0005	57	95	Yes	No	XDFN- 4
NCP170BMX250TCG	Pb-free Halide free	Active	Single	Positive	2.5	0.15	2.2	5.5	0.24	0.0005	57	125	Yes	No	XDFN- 4
NCP170BMX280TCG	Pb-free Halide free	Active	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	XDFN- 4
NCP170BMX285TCG	Pb-free Halide free	Active	Single	Positive	2.85	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	XDFN- 4
NCP170BMX300TCG	Pb-free Halide free	Active	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	XDFN- 4
NCP170BMX310TCG	Pb-free Halide free	Active	Single	Positive	3.1	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	XDFN- 4
NCP170BMX320TCG	Pb-free Halide free	Active	Single	Positive	3.2	0.15	2.2	5.5	0.19	0.0005	41	125	Yes	No	XDFN- 4
NCP170BMX330TCG	Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	XDFN- 4
NCP170BMX360TCG	Pb-free Halide free	Active	Single	Positive	3.6	0.15	2.2	5.5	0.17	0.0005	38	130	Yes	No	XDFN- 4
NCP170BXV120T2G	Pb-free Halide free	Active	Single	Positive	1.2	0.15	2.2	5.5		0.0005	57	85	Yes	No	SOT5 63-6

NCP170BXV135T2G	Pb-free Halide free	Active	Single	Positive	1.35	0.15	2.2	5.5		0.0005	57	85	Yes	No	SOT5 63-6
NCP170BXV150T2G	Pb-free Halide free	Active	Single	Positive	1.5	0.15	2.2	5.5		0.0005	57	90	Yes	No	SOT5 63-6
NCP170BXV180T2G	Pb-free Halide free	Active	Single	Positive	1.8	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	SOT5 63-6
NCP170BXV190T2G	Pb-free Halide free	Active	Single	Positive	1.9	0.15	2.2	5.5	0.35	0.0005	57	95	Yes	No	SOT5 63-6
NCP170BXV250T2G	Pb-free Halide free	Active	Single	Positive	2.5	0.15	2.2	5.5	0.24	0.0005	57	125	Yes	No	SOT5 63-6
NCP170BXV280T2G	Pb-free Halide free	Active	Single	Positive	2.8	0.15	2.2	5.5	0.21	0.0005	40	125	Yes	No	SOT5 63-6
NCP170BXV300T2G	Pb-free Halide free	Active	Single	Positive	3	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	SOT5 63-6
NCP170BXV310T2G	Pb-free Halide free	Active	Single	Positive	3.1	0.15	2.2	5.5	0.19	0.0005	47	120	Yes	No	SOT5 63-6
NCP170BXV330T2G	Pb-free Halide free	Active	Single	Positive	3.3	0.15	2.2	5.5	0.18	0.0005	41	125	Yes	No	SOT5 63-6

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