

PWM Buck Regulators Feature Unique Auto-Tracking and Sequencing Capabilities



ON Semiconductor introduced the NCP312x family of dual output pulse width modulation (PWM) buck regulators that offer auto-tracking and sequencing capabilities. Featuring integrated MOSFETs that provide 2A (NCP3120, NCP3122) or 3A (NCP3121, NCP3123) output current with switching frequency up to 2.2 MHz, the devices are appropriate for a variety of consumer applications. The auto-tracking and sequencing features enable exact timing and control over both output channels. A digital signal processor, field programmable gate array or other signal processor requires multiple power supplies generating different voltage levels for core and input/output (I/O) peripherals and specific timing of each voltage. This timing control prevents latchup conditions that can cause immediate damage or even latent damage that produces failures in the field. The NCP312x family of devices offers programmable ratiometric, sequential and tracking control to manage the output voltage behavior during start-up and power-down. Additionally, multiple NCP312x devices can also be daisy chained together to control multiple outputs. NCP312x converters reduce input capacitance requirements by switching 180° out-of-phase at a frequency of 200 kHz up to 2.2 MHz. The out-of-phase operation allows the use of a single low cost electrolytic capacitor or ceramic capacitor for the input filter versus two capacitors in a standard configuration. The outputs can also be paralleled to provide a dual-phase, single output regulator with low ripple voltage. The NCP3120, NCP3121, NCP3122, and NCP3123 are available in a QFN-32 package with budgetary price from \$1.30-\$1.55 USD per unit in 1,000 unit quantities.

ON Semiconductor

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Published on Electronic Component News (<http://www.ecnmag.com>)

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