

## Product Overview

### NCP12700: Ultra Wide Input Current Mode PWM Controller

For complete documentation, see the data sheet.

The NCP12700 is a fixed frequency, peak current mode, PWM controller containing all of the features necessary for implementing single-ended power converter topologies. The device features a high voltage startup capable of operating over a wide input range (9 – 120/200 V MSOP10/WQFN10) and supplying at least 20 mA to provide temporary bias to VCC during system startup. The controller offers an adjustable soft-start, input voltage UVLO protection, and an adjustable Over-Power Protection circuit which limits the total power capability of the circuit as the input voltage increases, easing the system thermal design. The UVLO pin also features a shutdown comparator which allows for an external signal to disable switching and bring the controller into a low quiescent state.

#### Features

- Wide Input Range (9 – 120/200 V; MSOP10/WQFN10)
- Current Mode Control with Integrated Slope Compensation
- Single Resistor Programmable Oscillator
- 1 A / 2.8 A Source / Sink Gate Driver
- Input Voltage UVLO with Hysteresis
- Several Fault Protections:- User Adjustable Over-Power Protection- Overload Protection with 30 ms Overload Timer- NTC-Compatible Fault Interface for Thermal Protection- Output OVP Fault Interface- Fault Auto-recovery Mode with 1 s Auto-recovery Period

#### Applications

- Low to medium voltage isolated DC-DC
- CCM & DCM Flyback Converters
- Forward converters

#### Benefits

- Simplify design and reduce BOM cost
- No sub-harmonic oscillation in CCM mode .
- Easy and flexible
- Drive any type of MOSFET's
- To protect the design or bring the controller into a low quiescent state
- Robust and safe design

#### End Products

- Telecom DC-DC Modules
- Industrial power converters
- Railway DC-DC Modules

#### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Phases	Control Mode	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	f <sub>SW</sub> Typ (kHz)	Package Type
NCP12700ADNR2G	0.7333	Pb-free Halide free	NEW	Flyback	1	Current Mode	6.5	120		MSOP-10
NCP12700BDNR2G	0.7333	Pb-free Halide free	NEW	Flyback	1	Current Mode	6.5	120		MSOP-10
NCP12700BMTTXG	0.8133	Pb-free Halide free	NEW	Flyback	1	Current Mode	6.5	160		WQFN-10

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