

Product Overview

NCP12510: Current-Mode PWM Controller for Off-line Power Supplies

For complete documentation, see the data sheet.

The NCP12510 is a highly integrated PWM controller capable of delivering a rugged and high performance offline power supply in a tiny TSOP-6 package. With a voltage supply range up to 35 V, the controller hosts a jittered 65-kHz or 100-kHz switching circuitry operated in peak current mode control. When the power on the secondary side starts decreasing, the controller automatically folds back its switching frequency down to a minimum level of 26 kHz. As the power further goes down, the part enters skip cycle while limiting the peak current. The controller has integrated protections such as Over Power Protection (OPP), Over Voltage Protection (OVP) and short-circuit protections. NCP12510 is improved and pin compatible controller based on very popular flyback controller NCP1250.

Features

- Frequency Foldback down to 26 kHz and Skip-Cycle in light load conditions
- Non-dissipative internal and adjustable Over Power Protection (OPP) circuits
- Frequency jittering from full load to skip-cycle
- Rich Set of Integrated Protections: Pre-short, OPP, OVP, OCP, SCP, OTP with Auto-Recovery or Latched Options.
- Improved IC Power Consumption
- Internal Ramp Compensation
- High Robustness and High ESD Capabilities

Applications

- Offline Adapters
- AC-DC converters

Benefits

- High efficiency in light load conditions
- Limits maximum delivered power without affecting standby performance
- Improved EMI performance
- Simple implementation of required protection functions
- Higher efficiency and lower No-Load Power Loss
- Reduces the number of external components
- Robust power supply with up to 4KV ESD

End Products

- Notebooks and Tablets
- General External AC-DC Adapters
- Printers
- Set-top Boxes

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Control Mode	f_{sw} Typ (kHz)	Stand-by Mode	UVLO (V)	Short Circuit Protection	Latch	Soft Start	V_{CC} Max (V)	Drive Cap. (mA)	Package Type
NCP12510ASN100T1G	0.1733	Pb-free Halide free	Active	Flyback	Current Mode	100	Yes	8.3	Yes	Yes	Yes	35	300 / 500	TSOP-6
NCP12510ASN65T1G	0.1733	Pb-free Halide free	Active	Flyback	Current Mode	65	Yes	8.3	Yes	Yes	Yes	35	300 / 500	TSOP-6
NCP12510BSN100T1G	0.1733	Pb-free Halide free	Active	Flyback	Current Mode	100	Yes	8.3	Yes	No	Yes	35	300 / 500	TSOP-6
NCP12510BSN65T1G	0.1733	Pb-free Halide free	Active	Flyback	Current Mode	65	Yes	8.3	Yes	No	Yes	35	300 / 500	TSOP-6
NCP12510CSN65T1G	0.1733	Pb-free Halide free	Active	Flyback	Current Mode	65	Yes	8.3	Yes	No	Yes	35	300 / 500	TSOP-6

For more information please contact your local sales support at www.onsemi.com.

Created on: 6/3/2020