Product Overview

NCP1365: Low Power Offline Constant Current & Constant Voltage Primary Side PWM Current-Mode Controller with High Voltage Startup Current Source

For complete documentation, see the data sheet.

The NCP1365 offer a new solution targeting output power levels from a few watts up to 20 W in a universal-mains flyback application.
Thanks to a novel method this new controller eliminates the need for a secondary feedback circuitry (typically an opto-coupler and TL431 reference) while achieving excellent line and load regulation.
The NCP1365 operates in valley lockout quasi-resonant peak current mode control mode at high load to provide high efficiency. When the power on the secondary side starts to diminish, the controller automatically adjusts the duty-cycle then at lower load the controller enters in pulse frequency modulation at fixed peak current with a valley switching detection. This technique allows keeping the output regulation with tiny dummy load. Valley lockout at the first 4 valleys prevent valley jumping operation and then a valley switching at lower load provides high efficiency.

Features

- No frequency clamp, 80 or 110 kHz Maximum Switching Frequency
- Quasi-Resonant with Valley Switching Operation
- 560-V Startup Current Source
- Fixed Peak Current & Deep frequency foldback @ light load operation
- Cycle by Cycle peak current limit
- Wide Operation VCC range (up to 28 V)
- Internal Temperature Shutdown
- CS & Vs/ZCD pin Short and Open Protection
- Constant Current Primary-side feedback eliminates secondary controller
- ±10% Current Regulation

  For more features, see the data sheet

Benefits

- Prevents high frequency interference with a touchscreen
- Offers high efficiency operation
- Saves external HV FET or inefficient resistor divider
- Low consumption at light load
- Safe operation
- Design flexibility
- Safe operation
- Safe operation

Applications

- AC-DC USB chargers for cell phones, tablets, and other portable devices

End Products

- AC-DC USB chargers for cell phones, tablets, and other portable devices

Part Electrical Specifications

Product	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
NCP1365AABCYDR2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	6.5	Yes	Yes	Yes	28	2000 / 1000	SOIC-7
NCP1365ACBAXDR2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	6.5	Yes	Yes	Yes	28	2000 / 1000	SOIC-7
NCP1365BABCYDR2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	No	6.5	Yes	Yes	Yes	28	2000 / 1000	SOIC-7

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

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