



GENERAL DESCRIPTION

DP2540A is a high performance offline PWM power switch for low power AC/DC charger and adapter applications. It operates in primary-side sensing and regulation. Consequently, opto-coupler and TL431 could be eliminated. High Precision Constant Voltage (CV) and Constant Current (CC) control are integrated as shown in the figure below. In CC control, the current and output power setting can be adjusted externally by the sense resistor R_s at CS pin. In CV control, multi-mode operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in Cable Drop Compensation. Device operates in PFM in CC mode as well as at large load condition and it operates in PWM with frequency reduction at light/medium load. The chip consumes very low operation current, it can achieve less than 75mW standby power.

DP2540A offers comprehensive protection coverage with auto-recovery features including Cycle-by-Cycle current limiting, VDD Over Voltage Protection (VDD OVP), short circuit protection, built-in leading edge blanking, VDD under voltage lockout (UVLO), OTP, etc.

High precision constant voltage (CV) and constant current (CC) can be achieved by DP2540A.

DP2540A is offered in DIP7/SOP7 package.

FEATURES

- $\pm 5\%$ Constant Voltage Regulation and Current Regulation at Universal AC Input
- Primary Side Regulation (PSR) Without TL431 and Opto-coupler
- No Need for Control Loop Compensation
- Programmable CV and CC Regulation
- Multi-Mode PWM/PFM Operation
- Output Short Load Protection
- Less than 75mW Standby Power
- Built-in Line Voltage and Primary Winding Inductance Compensation
- Built-in Adaptive Current Peak Regulation
- Programmable Cable Drop Compensation
- Audio Noise Free Operation
- Built-in Over Temperature Protection (OTP)
- Soft Gate Driver for Good EMI Performance
- Built-in Leading Edge Blanking (LEB)
- Cycle-by-Cycle Current Limiting
- VDD Under Voltage Lockout with Hysteresis (UVLO)
- VDD OVP & Clamp

APPLICATIONS

Low Power AC/DC offline SMPS for

- Cell Phone Charger
- Digital Camera Charger
- Small Power Adapter
- Auxiliary Power for PC, TV etc.
- Linear Regulator/RCC Replacement

TYPICAL APPLICATION

