

High Precision CC/CV Primary-Side Converter

General Description

The PN8512 consists of a high precision CC/CV primary side controller and a 650V power MOSFET, specifically designed for a high performance low power AC/DC charger and LED lighting with minimal external components. PN8512 operates in primary-side sensing and regulation, so opto-coupler and TL431 could be eliminated. PN8512 offers complete protection coverage with automatic self-recovery feature including Cycle-by-Cycle current limiting protection (OCP), over voltage protection (OVP) and feedback loop open protection (OLP), over temperature protection (OTP) and short circuit protection etc. Internal HV Start-up circuit and the chip's very low consumption help to meet the strict standby power standard. In CC control, the current and output power setting can be adjusted externally by the sense resistor R_{cs} at CS pin. In CV control, PFM operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in cable drop compensation.

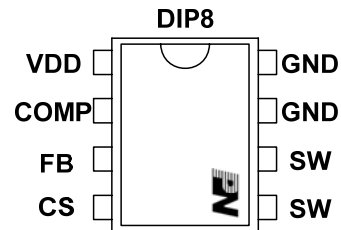
Features

- Internal 650 V avalanche-rugged power MOSFET
- $\pm 5\%$ Constant current Regulation at Universal AC input
- Primary-side Sensing and Regulation Without TL431 and Opt coupler
- Programmable CV and CC Regulation
- Programmable Cable Drop Compensation
- Built-in Primary winding inductance compensation
- Internal HV Start-up Circuit
- Excellent Protection Coverage:
 - ◇ Over Temperature Protection (OTP)
 - ◇ VDD Under Voltage Lockout (UVLO)
 - ◇ Cycle-by-Cycle Current Limiting (OCP)
 - ◇ Open Loop Protection (OLP)
 - ◇ VDD Over Voltage Protection (OVP)
 - ◇ Auto-recovery protection Mode

Applications

- Switch AC/DC Adaptor and Battery Charger
- STB Power Supply
- LED Light

Package/Order Information



Order codes	Package	V _{cable}	Typical power
			85~265 V _{AC}
PN8512NEC-T1	DIP8	3%	15W
PN8512NEC-T1B	DIP8	6%	15W
PN8512NEC-T1C	DIP8	0%	15W

Typical Application

