

Green-Mode PWM Controller with Integrated Protections

Rev. 01c

General Description

The LD7535/LD7535A are low cost, low startup current, current mode PWM controllers with green-mode power-saving operation. The integrated functions include the leading-edge blanking of the current sensing, internal slope compensation and the tiny package of SOT-26. They provide the users a superior AC/DC power application of higher efficiency, low external component counts, and lower cost solution.

Furthermore, LD7535/LD7535A features more protections like OLP (Over Load Protection) and OVP (Over Voltage Protection) to eliminate the external protection circuits. And to satisfy different designs, 2 versions of OVP levels are implemented as ---

- LD7535 --- $28.0V \pm 1.5V$.
- LD7535A --- $21.0V \pm 1.5V$.

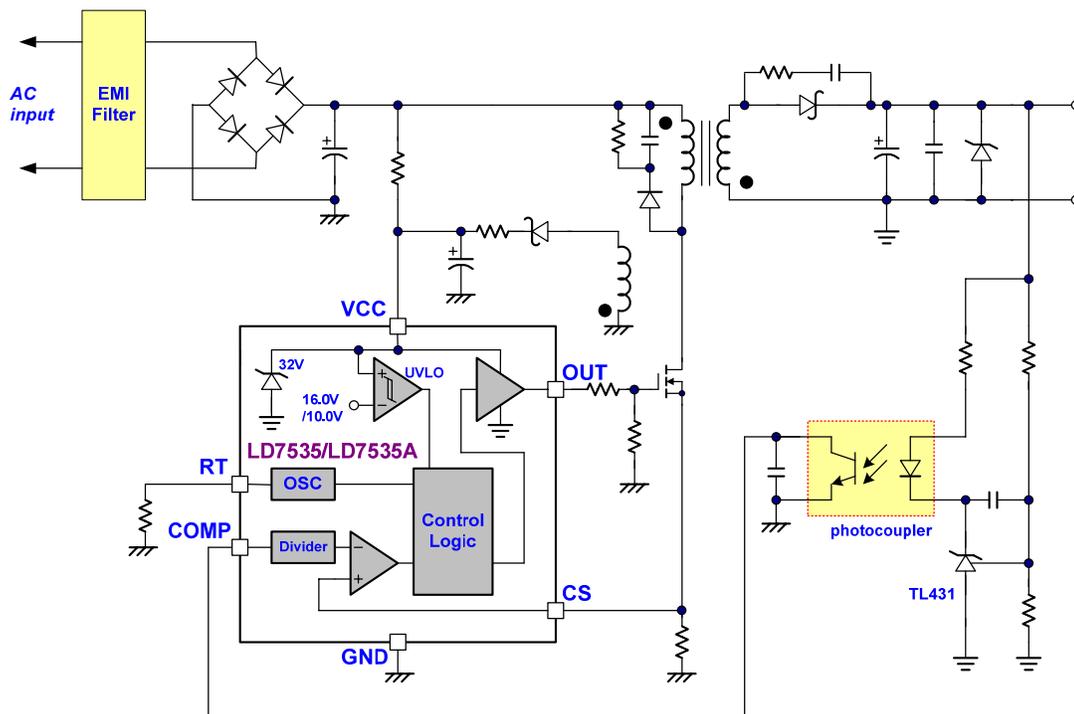
Features

- High-Voltage CMOS Process with Excellent ESD protection
- Very Low Startup Current ($<20\mu A$)
- Current Mode Control
- Non-audible-noise Green Mode Control
- UVLO (Under Voltage Lockout)
- LEB (Leading-Edge Blanking) on CS Pin
- Programmable Switching Frequency
- Internal Slope Compensation
- OVP (Over Voltage Protection) on Vcc Pin
- OLP (Over Load Protection)
- 300mA Driving Capability

Applications

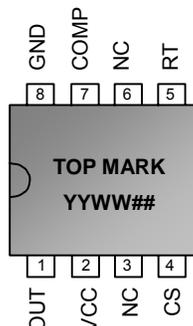
- Switching AC/DC Adaptor and Battery Charger
- Open Frame Switching Power Supply
- 384X Replacement

Typical Application

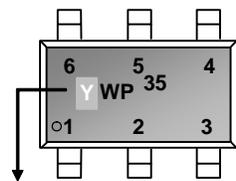


Pin Configuration (LD7535)

DIP-8 (TOP VIEW)



SOT-26 (TOP VIEW)



Y The PB free package is identified in embossed font while green package in regular font.

YY, Y : Year code (D: 2004, E: 2005.....)

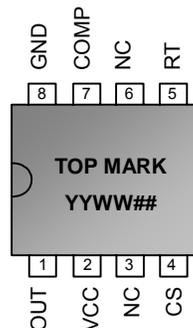
WW, W : Week code

P : LD75..
(Product family code)

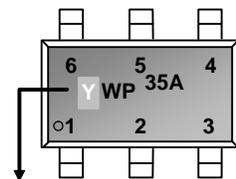
: Production code

Pin Configuration (LD7535A)

DIP-8 (TOP VIEW)



SOT-26 (TOP VIEW)



Y The PB free package is identified in embossed font while green package in regular font.

YY, Y : Year code (D: 2004, E: 2005.....)

WW, W : Week code

P : LD75..
(Product family code)

: Production code

Ordering Information

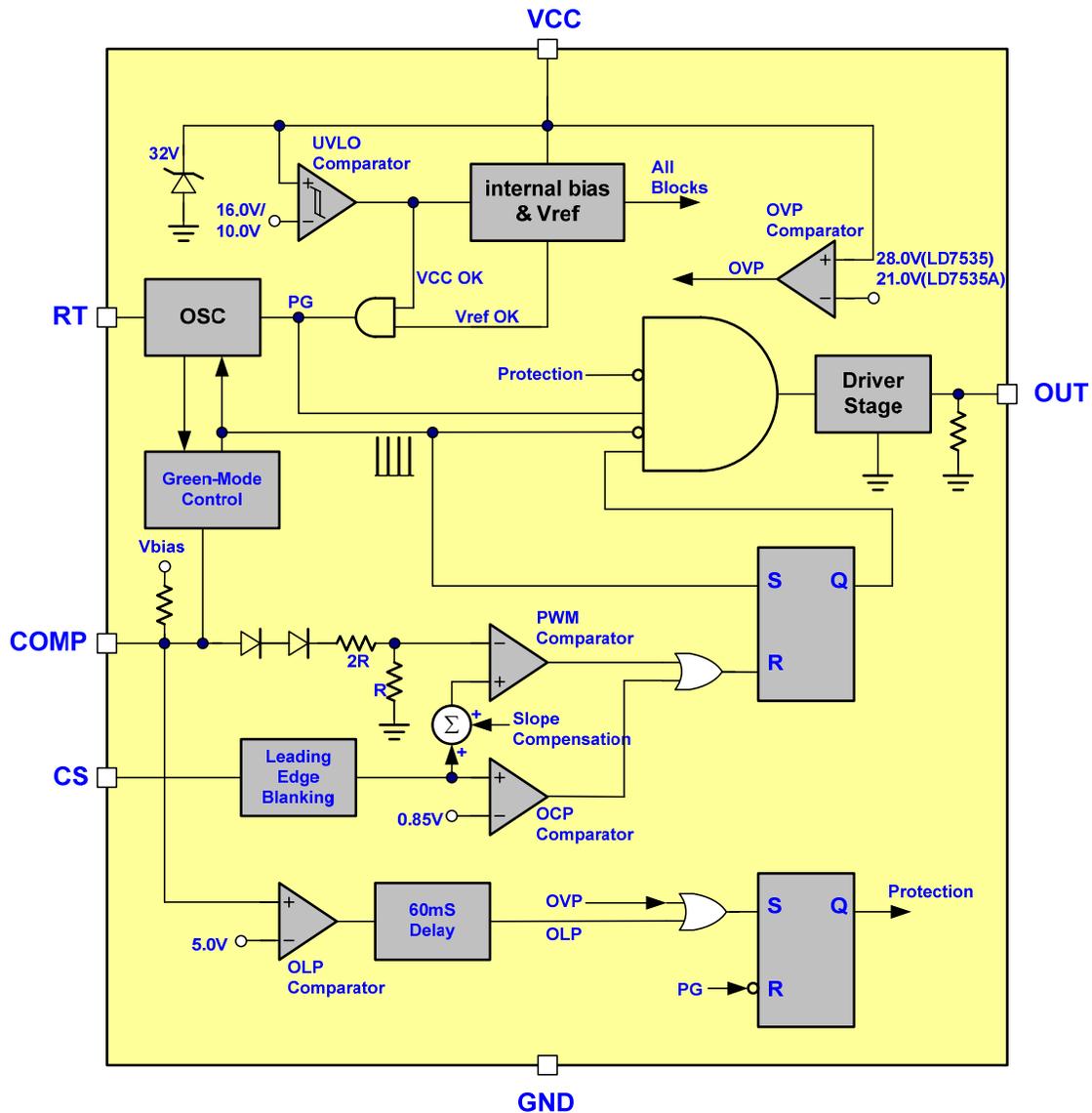
Part number	Package	TOP MARK	Shipping
LD7535 BL	SOT-26	PB Free	3000 /tape & reel
LD7535 GL	SOT-26	Green Package	3000 /tape & reel
LD7535 BN	DIP-8	PB Free	3600 /tube /Carton
LD7535A BL	SOT-26	PB Free	3000 /tape & reel
LD7535A GL	SOT-26	Green Package	3000 /tape & reel
LD7535A BN	DIP-8	PB Free	3600 /tube /Carton

The LD7535/ LD7535A are ROHS Complaint/ Green Package.

Pin Descriptions

PIN	NAME	FUNCTION
1	GND	Ground
2	COMP	Voltage feedback pin (same as the COMP pin in UC384X), By connecting a photo-coupler to close the control loop and achieve the regulation.
3	RT	This pin is to program the switching frequency. By connecting a resistor to ground to set the switching frequency.
4	CS	Current sense pin, connect to sense the MOSFET current
5	VCC	Supply voltage pin
6	OUT	Gate drive output to drive the external MOSFET

Block Diagram



* Note: OLP delay is 60mS when the switching frequency is set as 65KHz.

The OLP delay time is proportional to the period of switching cycle.

$$\text{That is, } T_{\text{OLP_delay}} \propto T_s = \frac{1}{f_s}$$