Green-Mode PWM Controller with Frequency Swapping and Integrated Protections

Rev. 01a

General Description

The LD7536R is built-in with several functions, protection and EMI-improved solution in a tiny package. It takes less components counts or circuit space, especially ideal for those total solutions of low cost.

The implemented functions include low startup current, green-mode power-saving operation, leading-edge blanking of the current sensing and internal slope compensation. It also features more protections like OLP (Over Load Protection) and OVP (Over Voltage Protection) to prevent circuit damage occurred under abnormal conditions.

Furthermore, the Frequency Swapping function is to reduce the noise level and thus helps the power circuit designers to easily deal with the EMI filter design by spending minimum amount of component cost and developing time.

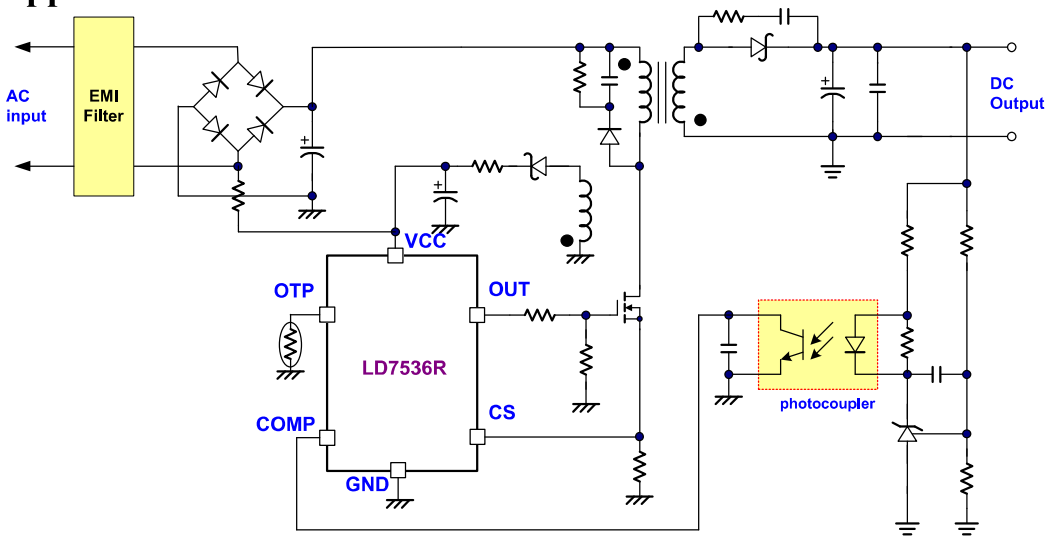
Features

- High-Voltage CMOS Process with Excellent ESD protection
- Very Low Startup Current (<20μA)
- Current Mode Control
- Green Mode Control
- UVLO (Under Voltage Lockout)
- LEB (Leading-Edge Blanking) on CS Pin
- Internal Frequency Swapping
- Internal Slope Compensation
- OVP (Over Voltage Protection) on Vcc Pin
- OTP (Over Temperature Protection) through a NTC
- OLP (Over Load Protection)
- 300mA Driving Capability

Applications

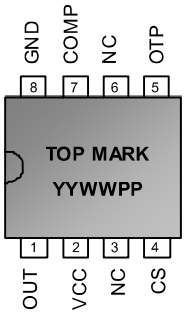
- Switching AC/DC Adaptor and Battery Charger
- Open Frame Switching Power Supply

Typical Application

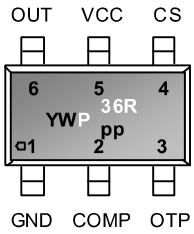


Pin Configuration

DIP-8 (TOP VIEW)



SOT-26 (TOP VIEW)



YY, Y : Year code (D: 2004, E: 2005……)
WW, W : Week code
PP : Production code
P36R : LD7536R

Ordering Information

Part number	Package		Top Mark	Shipping
LD7536R GL	SOT-26	Green Package	YWP/36R	3000 /tape & reel
LD7536R GN	DIP-8	Green Package	LD7536R GN	3600 /tube /Carton

Protection Mode

Switching Freq.	VCC OVP	OLP	OTP Pin
65kHz	Auto recovery	Auto recovery/ 65ms	Latch

Pin Descriptions

SOT-26	DIP-8	NAME	FUNCTION
1	8	GND	Ground
2	7	COMP	Voltage feedback pin (same as the COMP pin in UC384X). Connect a photo-coupler to close the control loop and achieve the regulation.
3	5	OTP	Pull this pin below 0.95V to shutdown the controller into latch mode until the AC resume power-on. Connecting this pin to ground with NTC will achieve OTP protection. Keep this pin float to disable the latch protection.
4	4	CS	Current sense pin, connect it to sense the MOSFET current
5	2	VCC	Supply voltage pin
6	1	OUT	Gate drive output to drive the external MOSFET

Block Diagram