Smart Green-Mode PWM Controller with Multiple Protections

REV:04

General Description

The LD7522 is a low startup current, current mode PWM controller with green-mode power-saving operation. The SOP-8/DIP-8 package integrated functions such as the leading- edge blanking of the current sensing, internal slope compensation, line compensation, and several protection features. The protection functions include cycle-by-cycle current limit, OVP, OTP, OLP, and brownout protection. It provides the users a high efficiency, low external component counts solution for AC/DC power applications.

Furthermore, to satisfy various protection requirements, both latch-mode protection and auto-recoverable protection can be easily achieved by configuring LD7522 on different operation modes.

The special green-mode control is not only to achieve the low power consumption but also to offer a non-audible-noise operation when the LD7522 is operating under light load or no load condition.

-Patent Pending

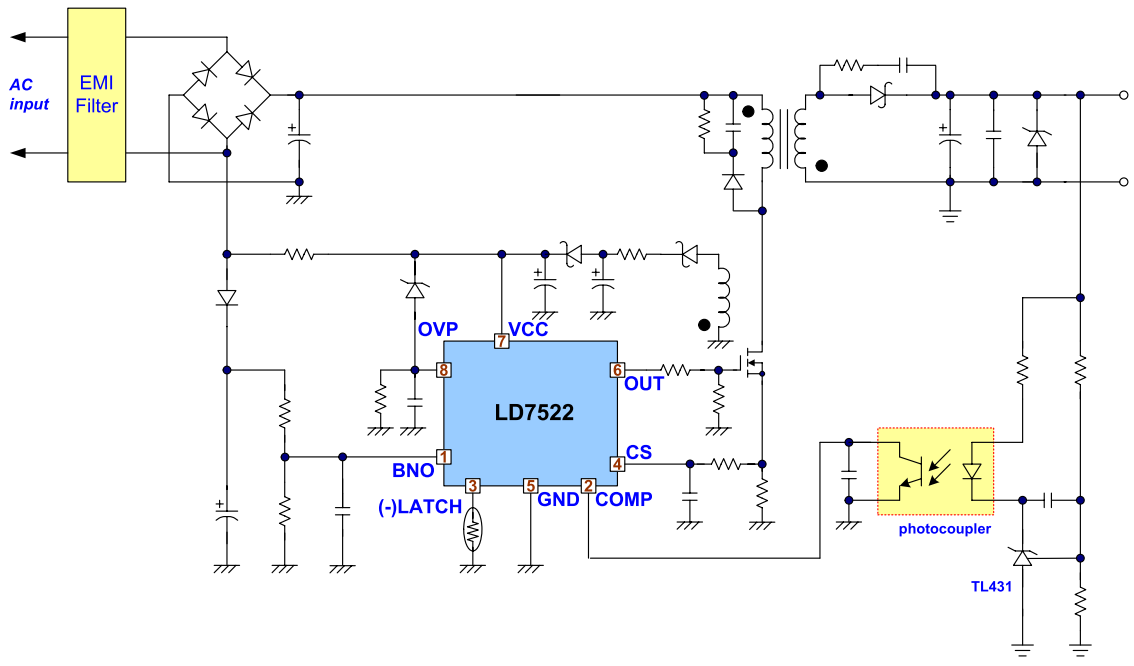
Features

- High-Voltage CMOS Process with Excellent ESD protection
- Very Low Startup Current (< 35μA)
- Current Mode Control
- Non-audible-noise Green Mode Control
- UVLO (Under Voltage Lockout)
- LEB (Leading-Edge Blanking) on CS Pin
- Internal Slope Compensation
- Programmable Line Compensation
- OVP (Over Voltage Protection)
- OLP (Over Load Protection)
- OTP (Over Temperature Protection) through a NTC
- Brownout Protection
- Flexibility on Latch/Auto-Recoverable Protection Mode
- 500mA Driving Capability

Applications

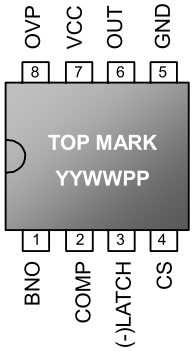
- Switching AC/DC Adaptor and Battery Charger
- Open Frame Switching Power Supply
- LCD Monitor/TV Power

Typical Application



Pin Configuration

SOP-8 & DIP-8(TOP VIEW)



YY : Year code (D: 2004, E: 2005…..)
WW : Week code
: Production code

Ordering Information

Part number	Package		TOP MARK	Shipping
LD7522 PS	SOP-8	PB Free	LD7522PS	2500 /tape & reel
LD7522 GS	SOP-8	Green Package	LD7522GS	2500 /tape & reel
LD7522 PN	DIP-8	DIP-8	LD7522PN	3600/tube /carton

The LD7522 is ROHS Complaint/ Green Package.

Pin Descriptions

PIN	NAME	FUNCTION
1	BNO	Brownout Protection Pin. Connect a resistor divider from this pin to bulk capacitor voltage to set the brownout level and line compensation. When the voltage of this pin is lower than a threshold voltage, the PWM output will be off.
2	COMP	Voltage feedback pin (same as the COMP pin in UC384X). Connecting a photo-coupler closes the control loop and achieves the regulation.
3	(-) LATCH	Pulling this pin to lower than 2.5V will shutdown the controller to the latch mode until the AC power-on recycling. Connecting a NTC from this pin to ground will achieve the OTP protection function. Keep this pin floating to disable the latch protection.
4	CS	Current sense pin, for sensing the MOSFET current
5	GND	Ground
6	OUT	Gate drive output to drive the external MOSFET
7	VCC	Supply voltage pin
8	OVP	This pin is high-active to provide the OVP function. Connecting a zener or a resistor voltage divider to Vcc will set the OVP level. Whenever the voltage is higher than 2.5V, the OVP is triggered and the gate drive will be off. Grounding this pin disables the OVP function.

Block Diagram