Green-Mode PWM Controller

General Description

The LD7550 is a low cost, low startup current, current mode PWM controller with green-mode power-saving operation. The integrated functions such as the leading-edge blanking of the current sensing, internal slope compensation and the small SOT-26 package provide the users a high efficiency, low external component counts, and low cost solution for AC/DC power applications.

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 LD7550 is operating under light load or no load condition.

The LD7550 is designed for the low power adaptor or charger applications. The LD7550 is with both SOT-26 and DIP-8 package.

† Patent pending

Features

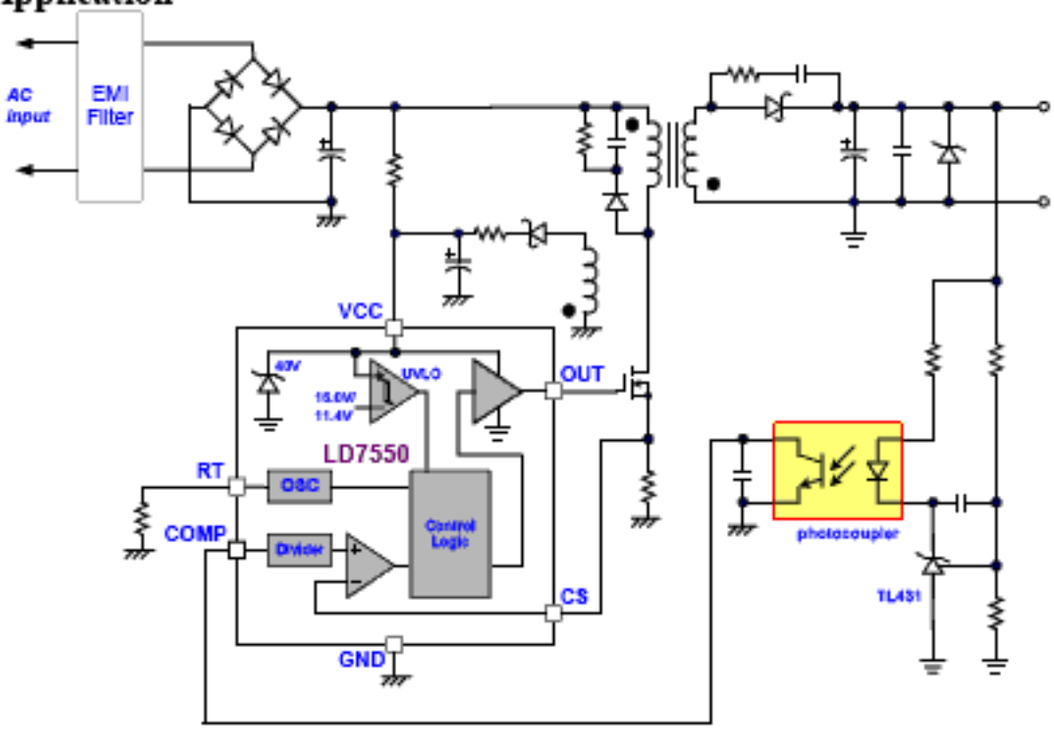
- High-Voltage CMOS Process with Excellent ESD protection
- Very Low Startup Current (Typical 5μA)
- Under Voltage Lockout (UVLO)
- Current Mode Control with Cycle-by-Cycle Peak Current Limiting
- Leading-Edge Blanking on CS Pin
- Programmable Switching frequency
- Internal Slope Compensation
- Proprietary Green-Mode Control for Power Saving®
- Non-audible-noise Green Mode Control
- 300mA Driving Capability

Applications

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

® *Note: Please see Application Information*

Typical Application

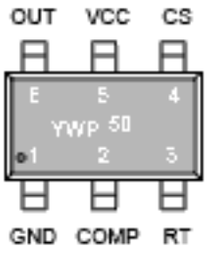


Leadtrend Technology Corporation
LD7550-DS-00 July 2004

Pin Configuration

DIP-8 (TOP VIEW)

SOT-26 (TOP VIEW)



YY, Y : Year code
WW, W: Week code
P : LD75..
(Product family code)
: Production code

Ordering Information

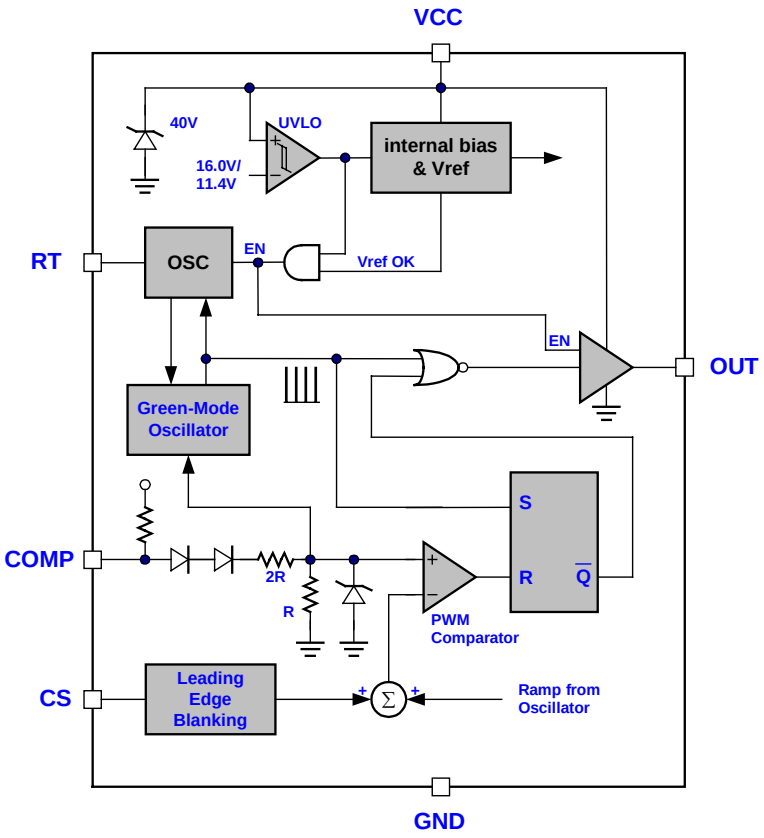
Part number	Temperature range	Package	TOP MARK	Shipping
LD7550 IL	-30 to 85 (°C)	SOT-26	YWP/50	3000 /tape & reel
LD7550 IN		DIP-8	LD7550IN	3600 /tube
LD7550 BL		SOT-26 (PB free)	(a) YWP/50	3000 /tape & reel
LD7550 BN		DIP-8 (PB free)	LD7550BN	3600 /tube

(a) Identified in different laser ink

Pin Descriptions

PIN (DIP-8)	PIN (SOT-26)	NAME	FUNCTION
1	6	OUT	Gate drive output to drive the external MOSFET
2	5	VCC	Supply voltage pin
3		NC	Unconnected pin
4	4	CS	Current sense pin, connect to sense the MOSFET current
5	3	RT	This pin is to program the switching frequency. By connecting a resistor to ground to set the switching frequency.
6		NC	Unconnected pin
7	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.
8	1	GND	Ground

Block Diagram



Absolute Maximum Ratings

Supply Voltage VCC	36V
COMP, RT, CS	-0.3 ~7V
Operating Junction Temperature	150°C
Storage Temperature Range	-65°C to 150°C
Package thermal resistance (DIP-8)	100°C/W
Package thermal resistance (SOT-26)	250°C/W
Lead temperature (DIP-8, Soldering, 10sec)	260°C
Lead temperature (SOT-26, Soldering, 10sec)	260°C

Caution:

Stresses beyond the ratings specified in “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not limited.