RS2335
PSR and Single Stage PFC Controller for LED Lighting

DESCRIPTION

RS2335 is a single stage, flyback and PFC controller controlling the LED current accurately. It operates in primary-side sensing regulation, so opto-coupler and TL431 could be eliminated.

The converter works in quasi-resonant mode in order to reduce the MOSFET switching losses.

The multi-protection features of the converter greatly enhance the system reliability and safety. The features including:

Cycle-by-Cycle current limiting, OTP, V_{DD} OVP, V_{DD} clamp and UVLO. The driver output voltage is clamped at 18V to protect the external power MOSFET. When LED OVP happens, the system will be shutdown, until the voltage of V_{DD} is charged above UVLO-OFF again.

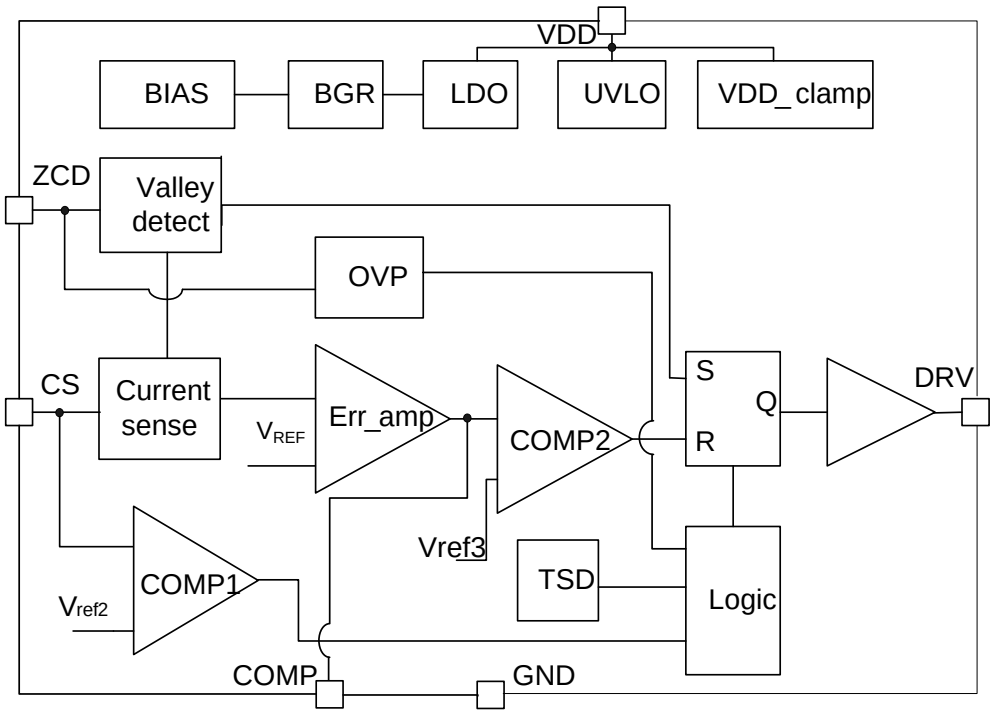
FEATURES

- Primary-side Sensing and Regulation Without TL431 and Opto-coupler
- Low start up current, typical 3μA
- $UVLO_{OFF}$ voltage 16V, and enter $UVLO_{ON}$ at 7.5V
- Operation in QR mode to improve efficiency
- OCP voltage 0.5V, primary side current sense voltage at 0.3V, reduce conduction loss
- LED open and short protection
- Power factor >0.9
- High output current accuracy
- Input AC voltage compensation
- Build in hysteresis OTP
- V_{DD} OVP and V_{DD} Clamp
- Pb-free SOT23-6L

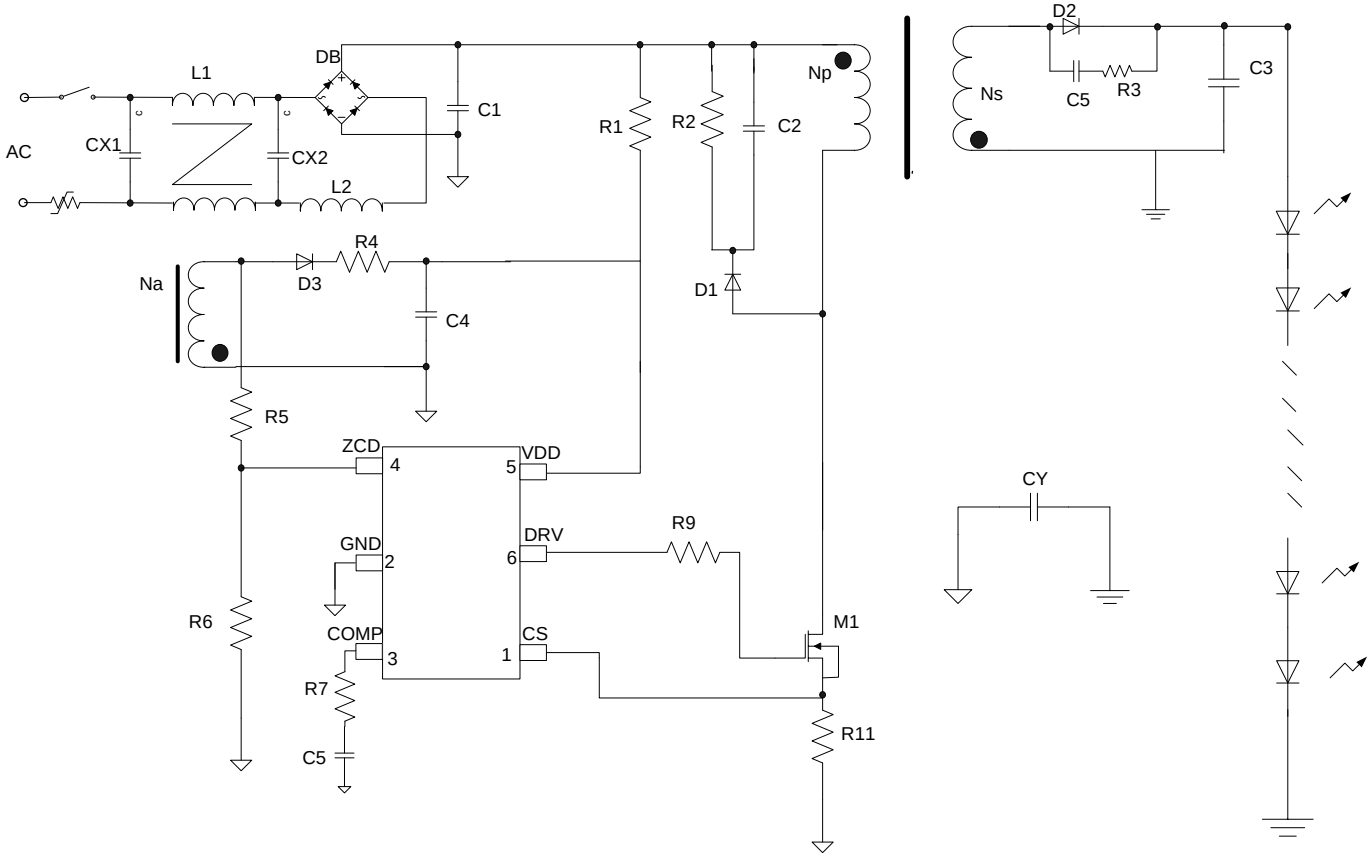
APPLICATIONS

- Cell phone charger
- Small power adaptor
- LED lamp
- Industrial controls

BLOCK DIAGRAM



APPLICATION CIRCUIT

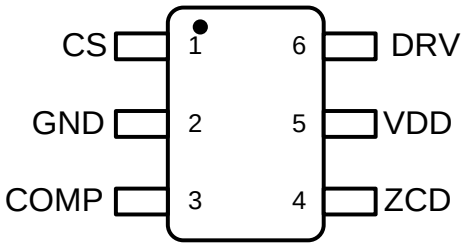


Note: Diode D1 must be ultra-fast diode.

ORDER INFORMATION

Device	Device Code
RS2335 Y Z	**Y is package & Pin Assignments designator :** N : SOT-23-6 **Z is Lead Free designator :** G: Green (Halogen Free with Commercial Standard)

PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	Description	Pin No.
CS	Current sense input	1
GND	Ground	2
COMP	Loop compensation for system stability	3
ZCD	Inductor current detection. Connected to resistor divider from auxiliary winding to GND. The Over-voltage condition is detected through this pin.	4
VDD	Power supply	5
DRV	Gate driver output pin, driving high power MOSFET.	6

IMPORTANT NOTICE

Princeton Technology Corporation (PTC) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and to discontinue any product without notice at any time.
PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

Princeton Technology Corp.
2F, 233-1, Baociao Road,
Sindian Dist., New Taipei City 23145, Taiwan
Tel: 886-2-66296288
Fax: 886-2-29174598
http://www.princeton.com.tw