

### Description

The BP9021A is a high precision primary-side feedback and regulation controller for LED lighting, it operates in constant current control mode and is designed to work in inductor current discontinuous conduction mode and especially suitable for flyback convertor under universal input. The output power of system is recommended to less than 3W.

The BP9021A integrates 650V power MOSFET. Since adopting primary sense and feedback control technology, the secondary sense and feedback circuit is eliminated. The loop compensation components are also removed while maintaining stability overall operating conditions. It uses patent pending source driver architecture and demagnetization sensing technology, the operating current is very low, and it doesn't need the auxiliary winding for sensing the output current and supplying the chip. The low component counts and small system size are realized.

Since using the proprietary high accurate current sense method, the BP9021A realizes  $\pm 5\%$  accuracy of LED current along with excellent line and load regulation.

The BP9021A offers rich protection functions including LED open/short circuit protection, CS resistor short circuit protection, thermal regulation,  $V_{CC}$  under voltage protection.

### Typical Application

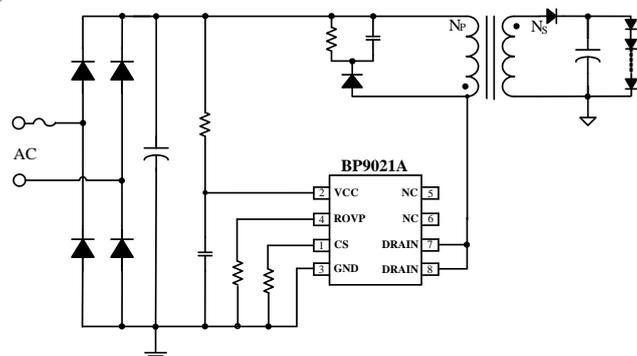


Figure 1. Typical application circuit for BP9021A

### Features

- Built-in 650V Power MOSFET
- Constant current control without secondary sense and feedback circuit.
- No Auxiliary winding for sensing and supplying
- Ultra low operating current to improve efficiency
- Universal input voltage
- $\pm 5\%$  LED current accuracy
- LED short and open circuit protection
- CS resistor short circuit protection
- $V_{CC}$  under-voltage protection
- Thermal regulation
- Available in SOP8 package

### Applications

- GU10/E27 LED bulb, spot light
- Other LED lighting

### Ordering Information

Part Number	Package	Operating Temperature	Packing Method	Marking
BP9021A	SOP8	-40°C to 105°C	Tape 4,000 Piece/Reel	BP9021A XXXXXY WXY

### Pin Configuration and Marking Information

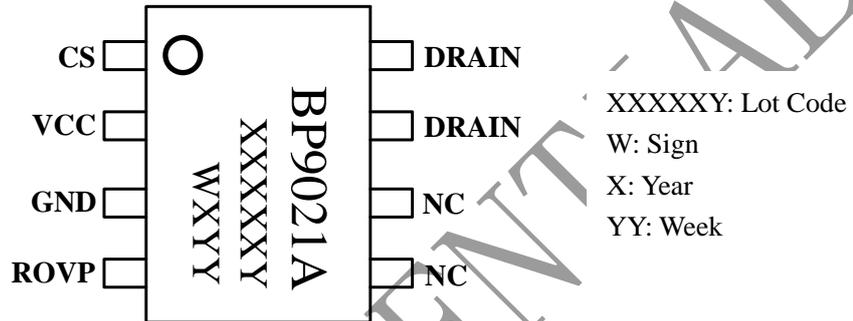


Figure 2. Pin configuration

### Pin Definition

Pin No.	Name	Description
1	CS	Current sense. This pin connects a current sense resistor to GND to detect the primary current of transformer.
2	VCC	Power supply
3	GND	Ground
4	ROVP	Connect a ROVP resistor to GND to set the LED open voltage.
5,6	NC	No connection, must be floated
7,8	DRAIN	Internal high voltage MOSFET Drain