

## DESCRIPTION

PT6905 is a three-stages (two-stages) dimming high brightness LED driver control IC. It allows efficient operation of driver current up to 800mA output, and the input range is from 7V to 36V. Moreover, PT6905 controls the internal MOS at a modulated switch frequency up to 1MHz. PT6905 drives a single or multiple series LEDs at a constant-current control method; thus, providing constant current light output and enhanced reliability. PT6905 uses innovative three or two stages dimming mode, it can be realized by ON/OFF the power supply switch easily. The output current will be set at 1/3, 2/3 or 1 times of the normal value (1/3 or 1 times of normal value in two stage dimming mode). Every time the power supply switch ON/OFF, the output current will be transferred to the next state.

PT6905 integrates more protection functions. The reliability of LEDs and device can be promoted by these protection functions. PT6905 provides over current protection when output short-circuit or LEDs current rises up about two times setting current. PT6905 must be power-up again if over current protection happens. PT6905 also provides over temperature protection. When the internal temperature rises up about 135°C, PT6905 will turn off switch. It will turn-on again when internal temperature falls down about 115°C.

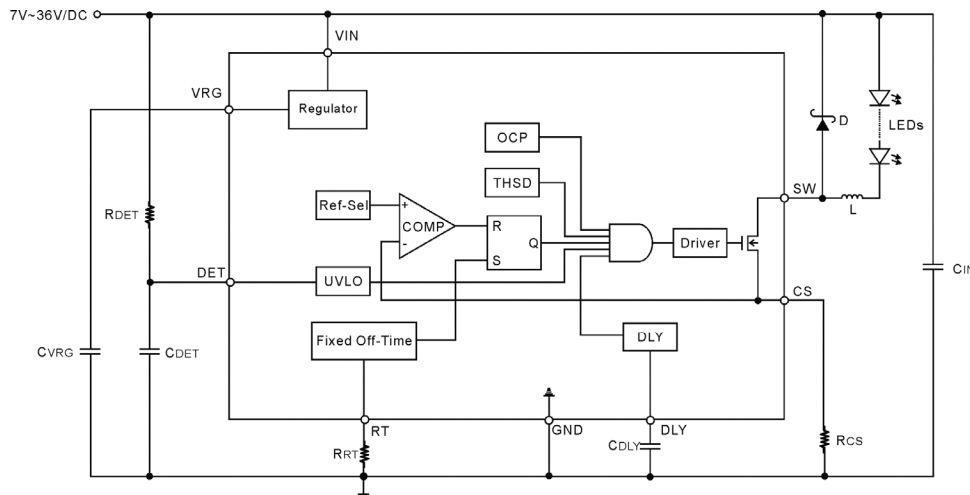
## FEATURES

- Three(or two) stages dimming
- >90% Efficiency
- Wide input voltage range: 7V to 36V
- Constant current driver
- Applications up to 0.8A
- Thermal shutdown protection
- Over current protection
- Open circuit protection
- Under voltage lockout
- Internal 40V power NMOS switch

## APPLICATIONS

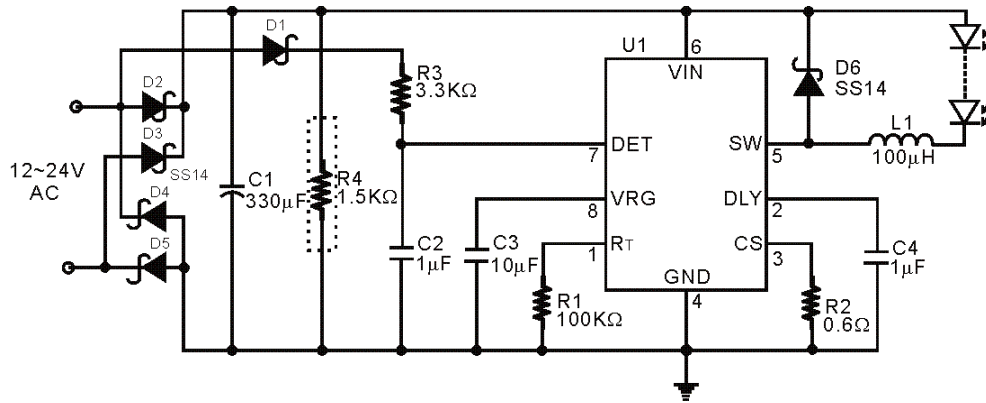
- DC/DC LED driver
- Low voltage industrial LED lighting
- Low voltage halogen replacement LEDs
- Decorative LED lighting

## BLOCK DIAGRAM

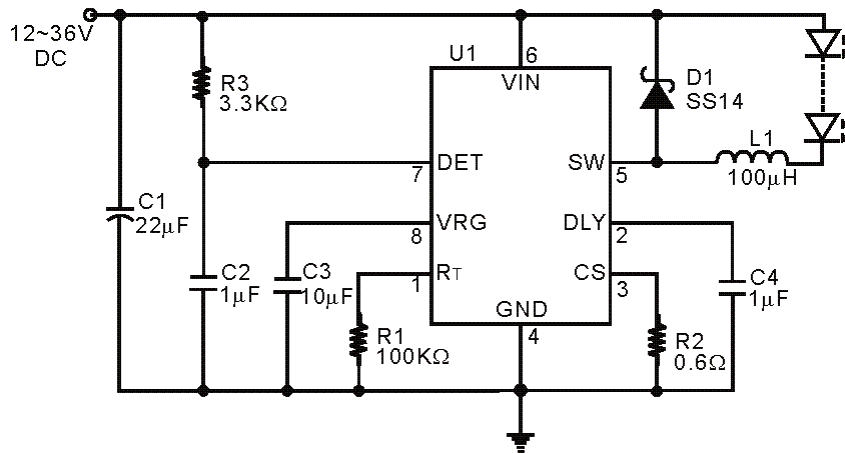


# TYPICAL APPLICATION

## AC INPUT



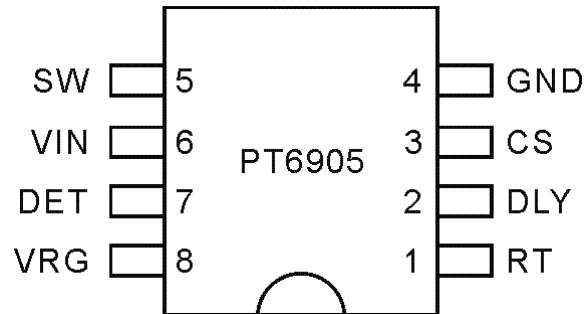
## DC INPUT



## ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT6905-01	8 Pins, SOP	PT6905-01
PT6905-02	8 Pins, SOP	PT6905-02
PT6905-03	8 Pins, SOP	PT6905-03
PT6905-04	8 Pins, SOP	PT6905-04

## PIN CONFIGURATION



## PIN DESCRIPTION

Pin Name	Description	Pin No.
RT	Internal power NMOS Fixed off-time setting resistor	1
DLY	Delay of power on to internal switch on	2
CS	LED string current sense	3
GND	Ground	4
SW	Internal switch	5
VIN	Positive input supply voltage	6
DET	UVLO & ON/OFF detection	7
VRG	Power supply of current status register	8

## **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, Taipei 23145, Taiwan  
Tel: 886-2-66296288  
Fax: 886-2-29174598  
<http://www.princeton.com.tw>