

DESCRIPTION

PT6903 is a PFM high brightness LED driver control IC. It allows efficient operation of driver current up to 1.0A output, and the input range is from 7V to 36V. Moreover, PT6903 controls the internal MOS at a modulated switch frequency up to 800KHz. PT6903 drives a single or multiple series LEDs at a constant-current control method; thus, providing constant current light output and enhanced reliability.

PT6903 has linear and PWM dimming functions. Output current to an LED string can be programmed to any value between its minimum value to its maximum value at the linear dimming control input of PT6903. PT6903 provides a low-frequency PWM dimming input that can accept an external control signal with a duty cycle of 0~100% and a frequency between 100Hz and a few KHz.

PT6903 integrates more protection functions. The reliability of LEDs and device can be promoted by these protection functions. PT6903 provides over current protection when output short-circuit or LEDs current rises up about two times setting current. PT6903 must be power-up again if over current protection happens. PT6903 also provides over temperature protection. There are two ways to protect LEDs and device when temperature rises up to limited level. One is internal thermal-shutdown function. If internal temperature rises up about 135°C, PT6903 will turn off switch. It will turn-on again when internal temperature falls down about 115°C. Another is temperature compensation function. This function is only used for SOP8 package. An NTC thermistor temperature monitoring circuit can be used to LD pin. When system temperature rises up to some limited level, the voltage on LD pin will fall under 240mV and LED current will fall under setting value. This function can reduce the temperature of system effectively.

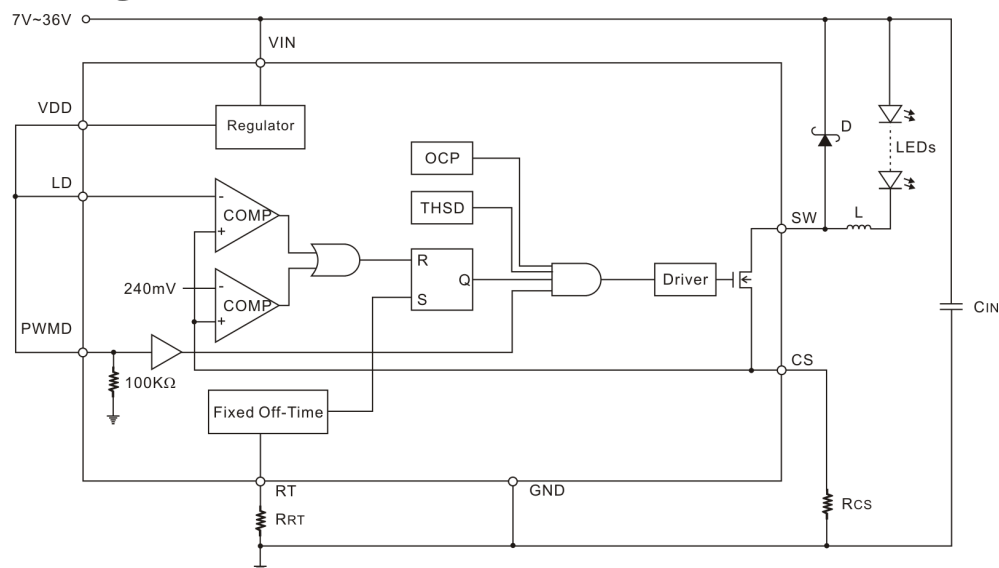
FEATURES

- >90% efficiency
- Wide input voltage range: 7V to 36V
- Constant current driver
- Applications up to 1.0A
- Linear & PWM dimming
- Thermal shutdown protection
- Over current protection
- Internal 40V power NMOS switch

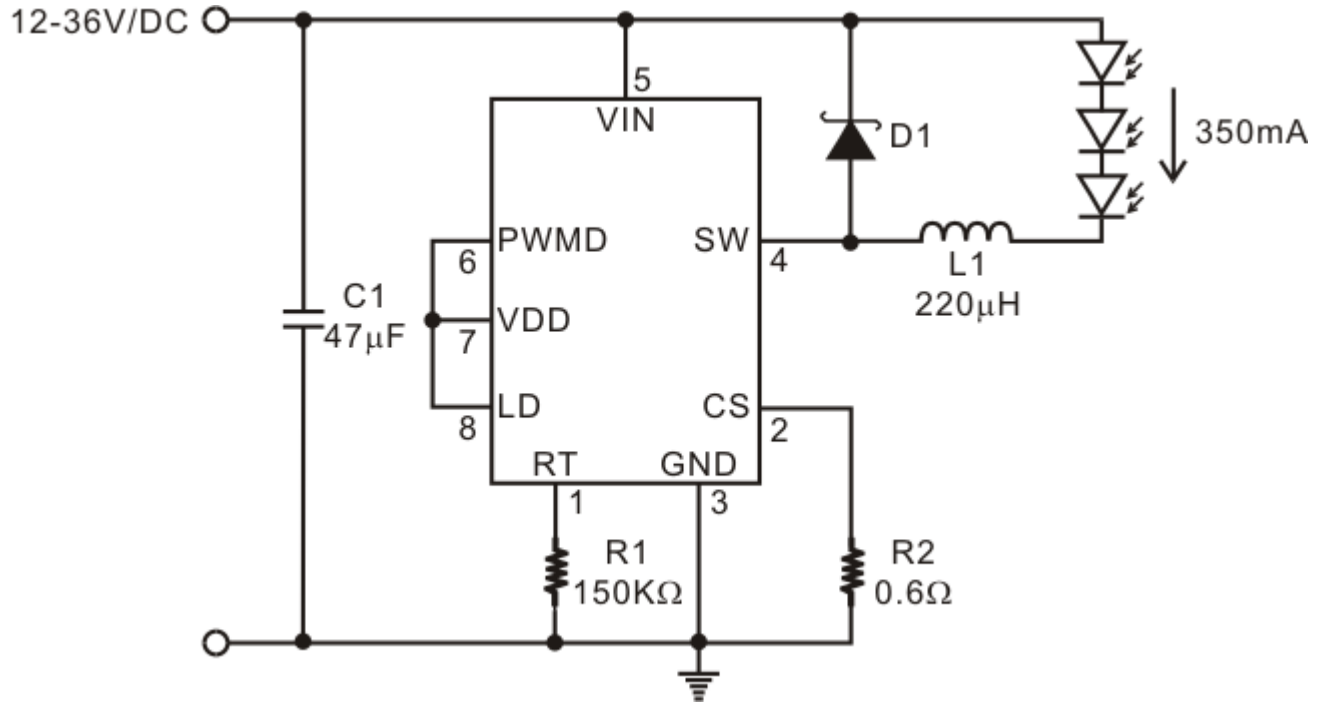
APPLICATIONS

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

BLOCK DIAGRAM



TYPICAL APPLICATION

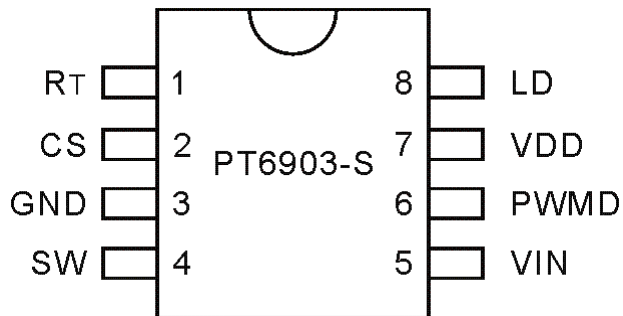


ORDER INFORMATION

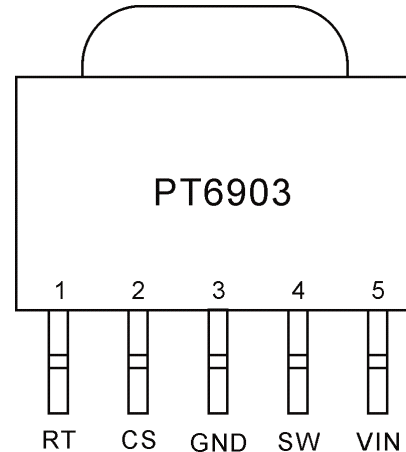
Valid Part Number	Package Type	Top Code
PT6903-S	8 Pins, SOP, 150 MIL	PT6903-S
PT6903	5 Pins, TO252	PT6903

PIN CONFIGURATION

8 PINS, SOP



5 PINS, TO252



PIN DESCRIPTION

Pin Name	Description	Pin No.	
		SOP-8	TO252
RT	Fixed off-time setting resistor	1	1
CS	LED string current sense	2	2
GND	Ground	3	3
SW	Internal switch	4	4
VIN	Positive input supply voltage	5	5
PWMD	PWMD dimming & enable input	6	
VDD	Internal regulated voltage	7	
LD	Linear dimming	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>