

## DESCRIPTION

MT7605 is a segmented linear constant - current LED driver. It operates in linear mode, according to the segment LED voltage drop automatically turns on different LED string without external settings to simplify the system design. No electrolytic capacitor, inductor, transformer are needed, low BOM cost is achieved.

MT7605 can drive three segment LED strings. When the input voltage varies, it lights up different segment LED strings automatically. In the one AC cycle, the LED light up time increases. This way, both efficiency and power factor improved. The PFC is as high as 0.99, THD can be less than 15%.

With Maxic's proprietary current regulation method, MT7605 achieves  $\pm 3\%$  accuracy of LED current. In addition, each segment of LED current can be set differently by individual sense resistors.

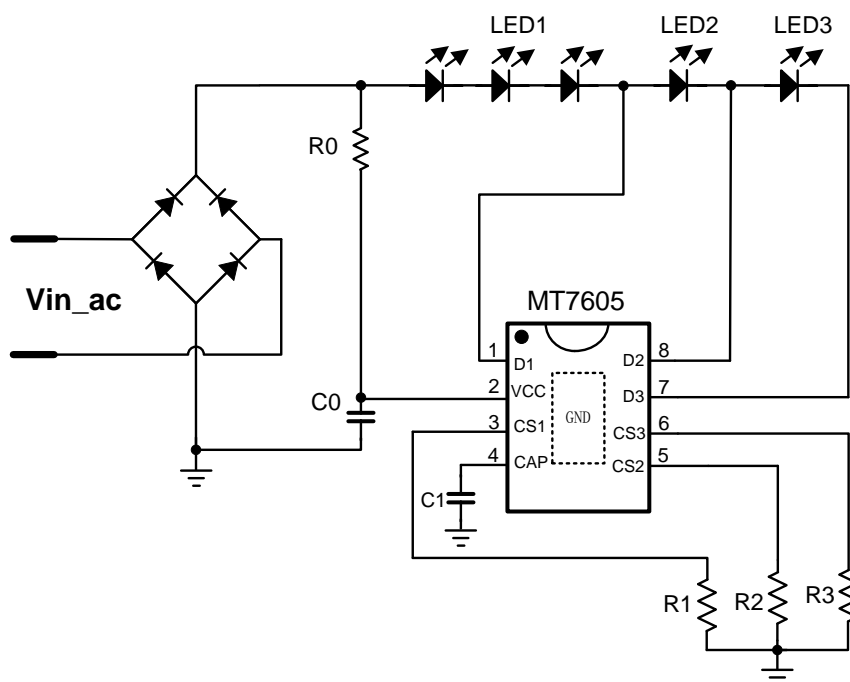
## FEATURES

- Segmented linear constant - current LED driver
- Turns on different segment LED strings automatically based on LED voltage drop
- Each segment LED current can be flexibly setting with external sense resistor
- High precision constant LED current ( $\pm 3\%$ )
- Peak LED current: 60mA
- Highest PFC is 0.99, THD is less than 15%
- Over temperature protection
- Lower output current gradually at high temperature
- Built-in power MOSFET simplifies peripheral design
- Available in ESOP8 package

## APPLICATION

- LED fluorescent light, panel light
- LED bulb light, decorative light
- Other compact LED Lighting Product

## Typical Application Circuit



**ABSOLUTE MAXIMUM RATINGS**

VCC	-0.3V ~ 20V
CAP,CS1,CS2,CS3	-0.3V ~ 6V
D1,D2,D3	-0.3V ~ 500V
Storage Temperature	-55°C ~ 150°C
Junction Temperature (Tj)	150°C

**RECOMMENDED OPERATING CONDITIONS**

Supply voltage VCC	20V
Operating Temperature	-40°C ~ 105°C

**THERMAL RESISTANCE<sup>①</sup>**

Junction to ambient ( $R_{\theta JA}$ )	90°C/W
Junction to Case ( $R_{\theta JC}$ )	55°C/W

**Note:**

- ①  $R_{\theta JA}$ ,  $R_{\theta JC}$  are measured in the natural convection at  $T_A = 25^\circ\text{C}$  on a low effective single layer thermal conductivity test board of JEDEC 51-3 thermal measurement standard. Test condition: Device mounted on 2" X 2" FR-4 substrate PCB, 2oz copper, with minimum recommended pad on top layer and thermal vias to bottom layer ground plane.