

## DESCRIPTION

MT7828 is a high precision LED constant current control chip operating at critical conduction mode (CRM) with zero current switched-on and peak current switched-off. It's mainly targeted for non-isolated buck LED power systems.

Critical conduction mode ensures that the MT7828 turns on the internal power MOSFET when the inductor current reaches zero, reducing the power MOSFET switching loss, and achieving more than 95% efficiency. With critical conduction mode, MT7828 outputs high accuracy LED current, and further achieves excellent line regulation and load regulation. It's insensitive to inductance and the I-shape inductor can be used.

MT7828 is intended for simplified peripheral circuits, low BOM cost application with an internal power MOSFET.

MT7828 has wide working voltage range, which is suitable for full-range AC input or 60V - 400V DC input voltage. MT7828 provides various protection features to enhance the system reliability, including over current protection (OCP), short circuit protection (SCP), and thermal adjustment, etc.

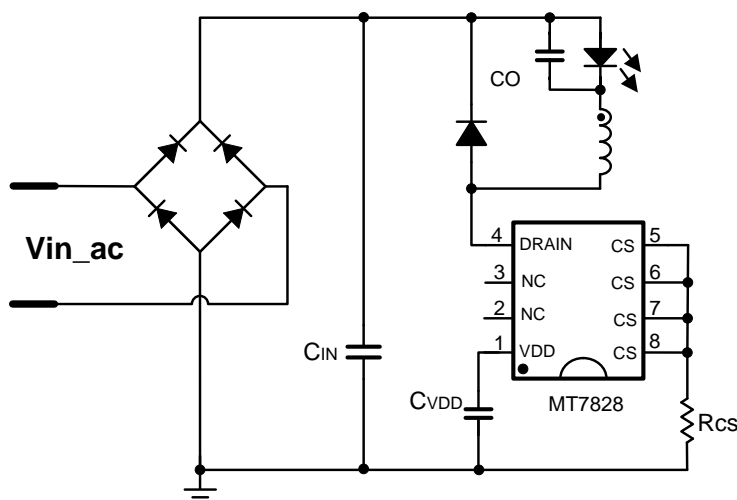
## FEATURES

- Critical Conduction Mode, insensitive to the inductance.
- High efficiency (up to 95%)
- Highly accurate constant LED current
- Cycle-by-cycle current limitation
- LED Short Circuit Protection
- Leading edge blanking technique
- Under-voltage lockout (UVLO) protection
- Thermal adjustment
- Available in SOP8 package

## APPLICATIONS

- LED bulb, LED tube, LED signal and landscape lamp
- LED stage light, LED candle light, LED corn light, etc.
- General purpose constant current source

## Typical Application Circuit



**ABSOLUTE MAXIMUM RATINGS**

DRAIN (internal high-voltage power MOS drain voltage)	-0.3V ~ 500V
VDD (Internal power supply output voltage)	-0.3 ~10V
P <sub>DMAX</sub> (maximum power consumption)	0.8W
Storage Temperature range	-55°C ~ 150°C
Junction Temperature (T <sub>j</sub> )	150°C

**RECOMMENDEDE OPERATING CONDITIONS**

Operating Temperature	-40°C ~ 105°C
Output Current	<80mA (Type A )
Input voltage: 176Vac~265Vac	<120mA (Type B)
Output voltage: VLED = 36V	<200mA (Type C)
	<275mA (Type D)
	<350mA (Type E)

**ORDERING INFORMATIONS**

Device	R <sub>DS(on)</sub>	Mark
MT7828A	30ohm	MT7828A ZYYWWxx
MT7828B	18ohm	MT7828B ZYYWWxx
MT7828C	12ohm	MT7828C ZYYWWxx
MT7828D	8ohm	MT7828D ZYYWWxx
MT7828E	5.1ohm	MT7828E ZYYWWxx