

DESCRIPTION

The MT7860 is a high power factor (PF) Buck LED Driver. It works under Quasi-Resonant Mode (QRM) which reduces both of current and voltage stress greatly, helps to improve EMI performance and efficiency. The output LED current is sensed by MT7860 with Quasi-full-cycle sensing (QCS) technology, accurate LED current regulation is achieved.

The MT7860 is specially designed for intelligent dimming application. Dimming of LED current can be achieved by decoded PWM or analog signal. The accuracy and consistency of LED current, especially at low dimming level, is achieved by the internal trimming decoder. As Dimming level becomes lower, the switching control method goes from QRM to PFM (Pulse Frequency Modulation) seamlessly. Then smaller output current and lower switching loss are achieved.

MT7860 provides various of protections to improve the system reliability, including over voltage protection (OVP), over current protection(OCP), short circuit protection (SCP) and over temperature compensation, etc.

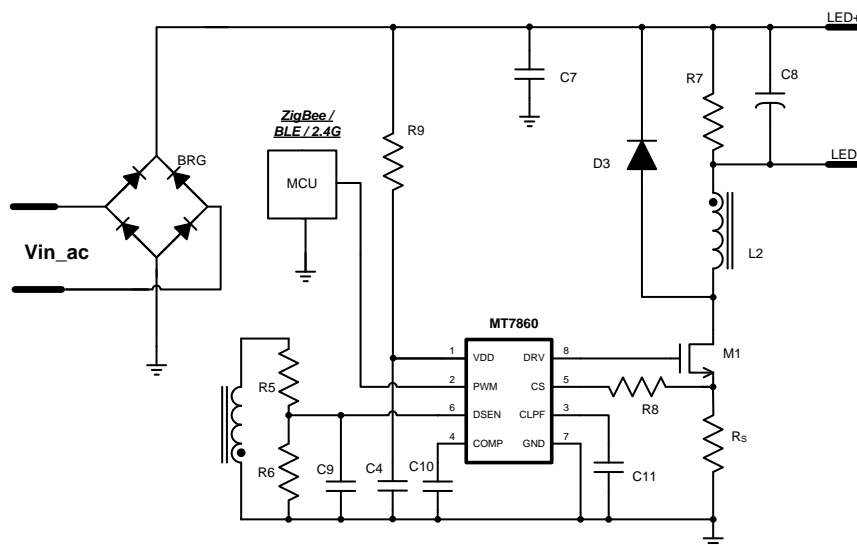
FEATURES

- Single-stage active power factor correction (PFC > 0.90)
- High precision LED current ($\pm 3\%$)
- Good Line and Load Regulation ($\pm 2\%$)
- Quasi-Resonant mode (QRM) operation
- Various protection schemes.
- PWM Dimming/ analog Dimming (100:1)
- Available in SOP8 package

APPLICATIONS

- Dimming lighting application
- Smart LED Lamps with 2.4G/BLE/ZigBee
- Other LED lighting application

Typical Application Circuit



ABSOLUTE MAXIMUM RATINGS

VDD Pin Voltage	-0.3V to VDD Clamp
DRV Pin Voltage	-0.3V to VDD
COMP/CS/DSEN/PWM/CLPF Pins Voltage	-0.3V to 5V
Lead Temperature (soldering, 10 sec.)	260°C
Storage Temperature	-55°C to 150°C
Junction Temperature (Tj)	150°C

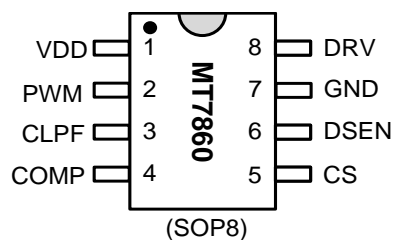
Recommended operating conditions

Supply voltage	9V to 28V
Operating Temperature (Environment)	-40°C to 105°C

Thermal resistance

Junction to ambient (R _{θJA})	128°C/W
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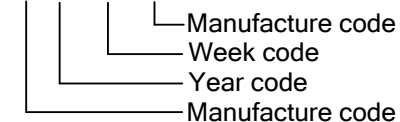
PIN CONFIGURATIONS



Chip Mark

MT7860

X YY WW XX



PIN DESCRIPTION

Name	Pin No.	Description
VDD	1	Power Supply pin.
PWM	2	Digital PWM Signal input pin.
CLPF	3	Analog Dimming Signal input pin / PWM dimming signal filtering capacitor
COMP	4	Internal EA's output pin. Connect a capacitor to ground for frequency compensation.
CS	5	Current Sense pin.
DSEN	6	Feedback pin for inductor zero current crossing detection.
GND	7	Ground pin.
DRV	8	Drive signal for external Power MOSFET.