

DESCRIPTION

MT7930 is a single-stage, primary side control AC-DC LED driver with high power factor. With MAXIC patent pending technology, the LED current can be regulated accurately through sensing the primary side information with few external components without the need of an opto-coupler.

MT7930 integrates power factor correction function and works in DCM and constant OFF time mode. A small harmonic current emission (THD) is achieved.

MT7930 is also implemented with various protections, such as over-current protection (OCP), over-voltage protection (OVP), short-circuit protection (SCP) and over-temperature protection (OTP), etc, to ensure a reliable system.

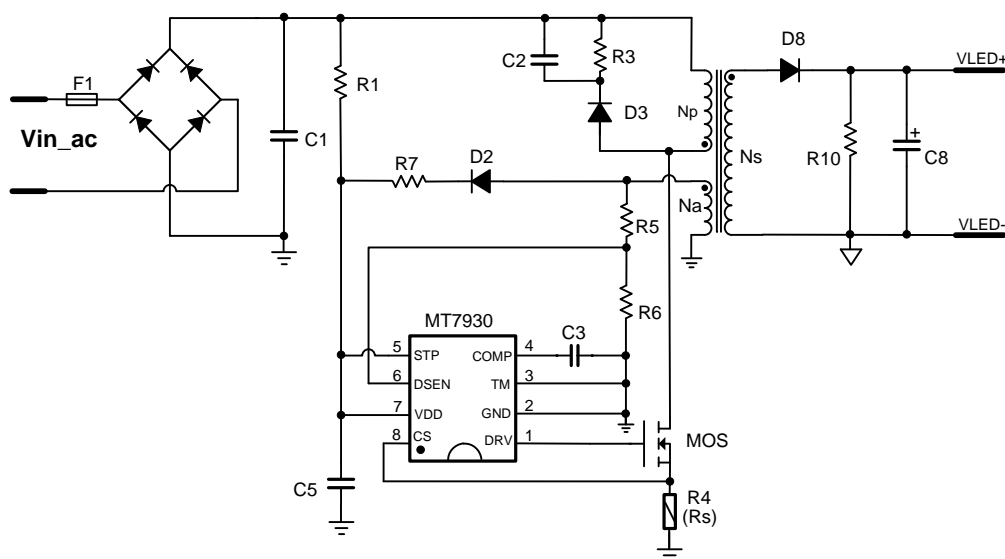
FEATURES

- Wide input voltage range from AC85V to AC265V
- Highly accurate constant LED current ($\pm 3\%$)
- Up to 80W power drivability.
- Primary-side current sensing and regulation without an opto-coupler
- Leading edge blanking (LEB) technique
- Cycle-by-cycle current limiting
- Under-voltage lockout (UVLO) protection
- VDD and output over voltage protection
- Adjustable constant current and output power setting
- Power on soft-start
- Available in SOP8 package

APPLICATIONS

- AC/DC LED driver applications
- General purpose constant current source
- Signal and decorative LED lighting
- E27/PAR30/PAR38/GU10 etc. LED lamp

Typical Application Circuit



ABSOLUTE MAXIMUM RATINGS

STP, VDD, DRV Voltage	-0.3V to 25V
All Other Pins Voltage	-0.3V to 6V
Storage Temperature	-55°C to 150°C
Junction Temperature (Tj)	150°C

Recommended operating conditions

Supply voltage	7.2V to 18V
Operating Temperature	-40°C to 105°C

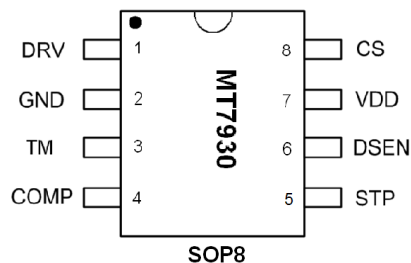
Thermal resistance^①

Junction to case (R _{θJC})	128°C/W
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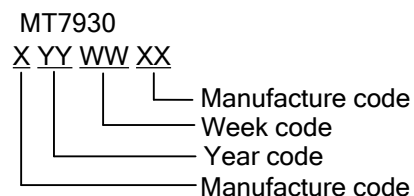
Note:

- ① R_{θJC} is measured in the natural convection at TA = 25°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.

PIN CONFIGURATIONS



Chip Mark



PIN DESCRIPTION

Name	Pin No.	Description
DRV	1	Gate drive output for power N-MOSFET.
GND	2	Ground.
TM	3	Test pin. Always tie to ground.
COMP	4	Internal EA's output. Connect a capacitor to ground for frequency compensation.
STP	5	Start-up Pin. The MT7930 is softly started through STP Pin.
DSEN	6	The voltage feedback from auxiliary winding. Connected to a resistor divider from auxiliary winding reflecting output voltage.
VDD	7	Power Supply.
CS	8	Current Sense pin.