

### DESCRIPTION

MT7950H is a primary-side controller for AC-DC LED lighting. It operates in constant current control mode and works in discontinuous conduction mode, suitable for flyback converter under universal input.

MT7950H adopts primary side sensing and regulation technology, no secondary side feedback circuit is needed. Further, the loop compensation components are also eliminated while maintaining system stability. Low component counts and low BOM cost are achieved.

By using Maxic proprietary current regulation method, the MT7950H achieves  $\pm 3\%$  accuracy of LED current along with excellent line regulation and load regulation.

MT7950H provides plenty of protections, such as LED short circuit protection, LED open circuit protection, over-temperature protection, VDD over voltage protection, VDD under voltage lock-out, etc.

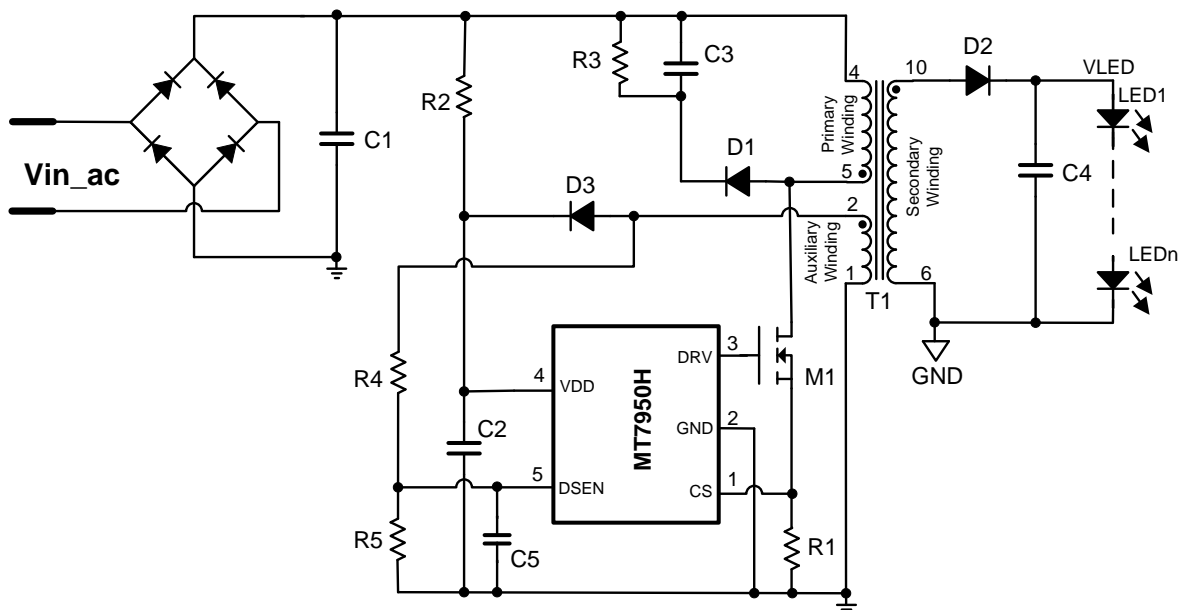
### FEATURES

- 85V to 265V AC line voltage range
- Primary side sensing and regulation, no need of secondary side feedback
- High precision constant LED current ( $\pm 3\%$ )
- Cycle-by-cycle peak current control
- LED short-circuit/open circuit protection
- VDD under voltage lock-out protection
- VDD over voltage protection
- Over temperature protection
- Built-in leading edge blanking (LEB)
- Extremely minimum external components
- Available in SOT23-5 package

### APPLICATION

- E14/E27/PAR30/PAR38/GU10 LED lamp
- LED lighting application
- General purpose constant current source

### Typical Application Circuit



### ABSOLUTE MAXIMUM RATINGS

VDD	-0.3V to 20V
DSEN	-0.3V to 6V
DRV	-0.3V to 20V
CS	-0.3V to 6V
Storage Temperature	-55°C to 150°C
Junction Temperature (Tj)	150°C

### Recommended operating conditions

Supply voltage	7.5V to 16V
Operating Temperature	-40°C to 105°C

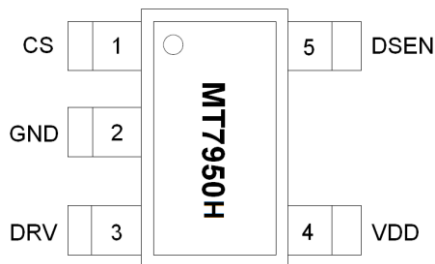
### Thermal resistance<sup>①</sup>

Case to ambient (R <sub>θCA</sub> )	145°C/W
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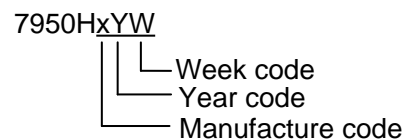
**Note:**

- ① *R<sub>θJA</sub> 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
CS	1	Current sense pin. A sense resistor connected between CS and GND pin.
GND	2	Ground
DRV	3	Gate drive output for power N-MOSFET.
VDD	4	Power Supply.
DSEN	5	The voltage feedback from auxiliary winding. Connected to a resistor divider from auxiliary winding reflecting output voltage. For further noise immunity, parallel a 22pF capacitor to GND.