

High Voltage, Step-up LED Driving Controller

❖ GENERAL DESCRIPTION

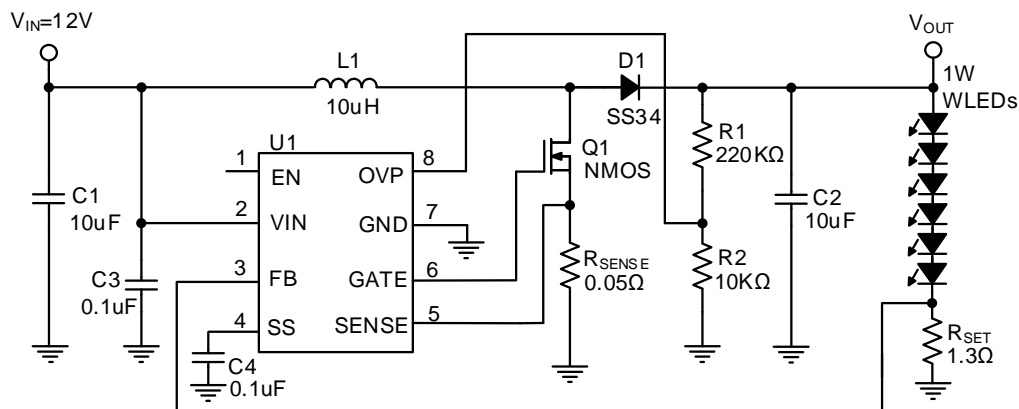
The MA2201 is a current mode step-up LED Driving controller. The input voltage range is widely from 3.5V to 28V, designed to drive an external N-channel MOSFET. Output LED current is programmable with $V_{FB} = 0.2V$.

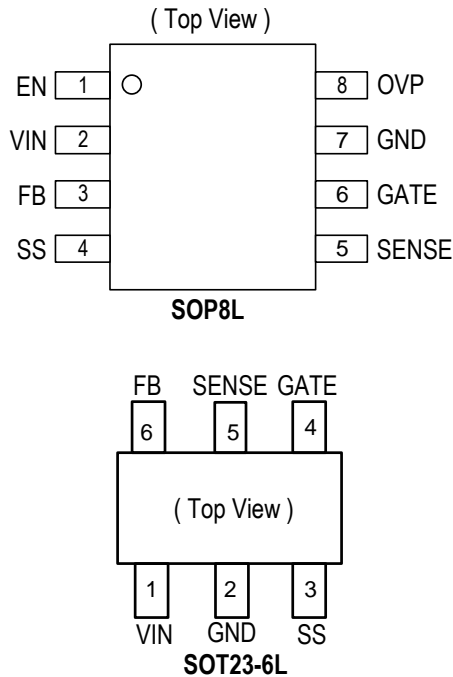
The PWM switching frequency is 600KHz and allows usage of small external inductor. External power MOSFET with very low $R_{DS(ON)}$ provides high efficiency and good product reliability. The controller also provides protection functions such as input under voltage lock-out, output over voltage protection (only in SOP8L), current limit, and thermal shutdown.

❖ FEATURES

- 3.5V to 28V Operating Input Voltage Range
- 600KHz Fixed Switching Frequency
- 0.2V \pm 2% Feedback Voltage Range
- Up to 90% Efficiency
- Drives up to 10 WLEDs
- External Soft-Start Function
- Over Current Protection (OCP)
- Thermal Shutdown Protection (OTP)
- Input Under Voltage Lock-out (UVLO)
- Output Over Voltage Protection (OVP, only in SOP8L)
- Available in SOP8L and SOT23-6L Package Types

❖ SIMPLIFIED APPLICATION CIRCUIT



❖ PIN ASSIGNMENT


Name	Description
EN	Chip Enable Pin. Active high. Internal pull high.
VIN	Input Supply Pin.
FB	Negative Feedback Input Pin. The FB voltage is 0.2V. Set LED current through a resistor from FB to GND.
SS	Soft-Start Pin. Connect an MLCC Capacitor from SS to GND.
SENSE	Current Limit Sense Voltage Pin. Connect this pin to GND to disable this function.
GATE	Gate drive for external N-channel MOSFET.
GND	Ground Pin for signal input ground, output ground, FB ground, SS ground, and SENSE ground.
OVP	Output Over Voltage Protection. When OVP activates, it will turn off switching driver. Set OVP point through a resistor divider. Connect to GND to disable this function.

□ SOP8L package only.

❖ ORDER/MARKING INFORMATION

Order Information	Top Marking (SOP8L)
<p>MA2201 X X → Packing Blank: Tube A : Taping</p> <p>Package Type S: SOP8L C:SOT23-6L</p>	<p>MA2 2 0 1 → Part number X X X X X → ID code:internal → WW: 01~52 → Year: 19 = 2019</p>
	<p>Top Marking (SOT23-6L)</p> <p>C 2 Y W X → ID Code: Internal → Week: 01~26(A~Z) 27~52(a~z) → Year: 9 = 2019</p>