

TS19501CB10H

AUTOMOTIVE-COMPLIANT SINGLE-CHANNEL HIGH INTEGRATED DIMMABLE LED CONTROLLER FOR AUTOMOTIVE HEADLIGHT

TS19501CB10H is a single channel LED driver of low-side-current sense. This device can operate in DCM, BCM and CCM mode with full protection and diagnostics. This device is fully dedicated and suitable for automotive headlight. This controller supports typical topologies such as Boost, Buck-Boost and SEPIC.

Output current regulation is based on average current mode control supervised by a control loop. The fault flag is connected to pull-up resistor from VDC for highlighting the information of fault and fault status flag is latched by the timer when output is low.

KEY FEATURES & ADVANTAGES:

- AEC-Q100 qualified with the following results:
 - Device temperature grade 1: -40°C to 125°C
 - Device HBM ESD classification level H2
 - Device CDM ESD classification level C6
- Drives LEDs in Boost, Buck-Boost and SEPIC Topology
- Operation in DCM, BCM, CCM mode
- Input Voltage 4.5V ~ 38V (42V Abs. Max.)
- Adjustable Switching Frequency 70k ~ 700kHz
- Low-Side Current Sense
- Internal Voltage Reference 150mV \pm 3.3%
- Both PWM Dimming and Analog Dimming
- Over Voltage Protection (OVP)
- Over Current Protection (OCP)
- Over Temperature Protection (OTP)
- Under Voltage Lockout (UVLO)
- Jitter function for effective spread spectrum to reduce EMI
- Fault Status flag and Internal Soft Start



MSOP-10EP

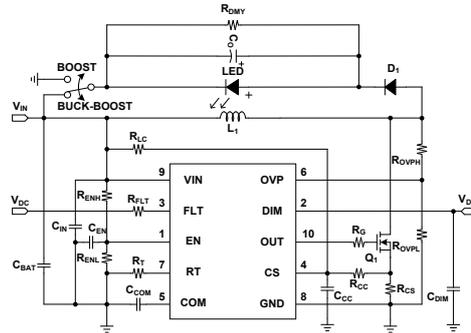
Pin Definition

1. EN	10. OUT put
2. DIM	9. VIN
3. PLT	8. GND
4. OVP	7. RT
5. COM	6. CS

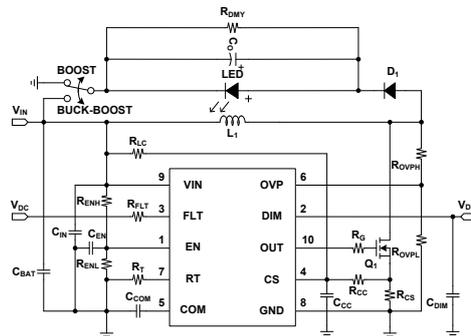
APPLICATION:

- Automotive LED Lighting:
 - Daytime Running Light,
 - Turn indicator, Position Light,
 - High and low Beam, Fog Light
- General Lighting Applications
- High Brightness LED Applications

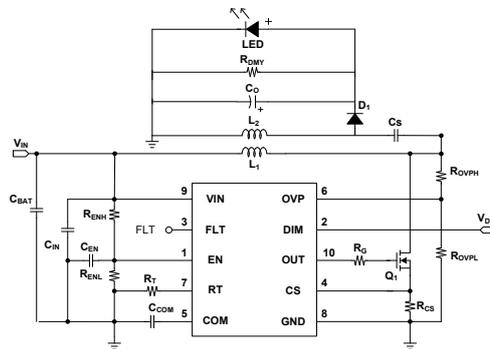
TYPICAL APPLICATION CIRCUIT:



Buck-Boost Regulator



Boost Regulator



SEPIC

KEY PERFORMANCE

PART NUMBER	TOPOLOGY	INPUT VOLTAGE MIN. [V]	INPUT VOLTAGE MAX. [V]	LED CURRENT MAX. [A]	SWITCHING FREQUENCY MAX. [kHz]	DIMMING	TEMPERATURE RANGE [°C]	REFERENCE VOLTAGE [mA]	STANDBY CURRENT [µA]	AEC-Q100
TS19501CB10H	Buck-Boost Boost SEPIC	4.5	42	Ext. N-MOS	700	PWM Analog	-40 ~ 125	150	150	Yes

ORDERING INFORMATION

PART NUMBER	PACKAGE OUTLINE	REEL [PCS]	REEL SIZE [INCH]	INNER BOX [PCS]	CARTON [PCS]	CARTON SIZE [MM]	GROSS WEIGHT [KG/CARTON]
TS19501CB10H RBG	MSOP-10EP	5,000	13	5,000	45,000	385*375*390	10.35

For pricing and more information, please contact TSC sales or authorized distributors.