LD24BC xxx

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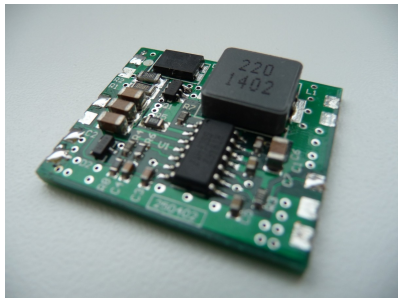
Low Cost, Analog & PWM Dimming, Constant Current, DC/DC Boost LED Driver



is a highly effective continuous Step-Up converter optimized for managing one COB LED or string up to 10 High Power LEDs from a wide input range of 8V to 36V DC , nominal at standart 24V power source. Control algorithm allows highly efficient and accurate control of COB LED or power LEDs . Depending on the components assembled on to board, supply voltage and configuration unit can provide up to 35 watts of output power . The device has a Two special entries ADIM and PWM to manage output. Depending on the input circuit allows to realize analog or digital version dimming (Dimmer).

Applying a voltage from 0.2V to 1.2V on the input ADIM you can control output current from 0% to 100 % of output current.

A digital PWM signal on the PWM input control either directly or using a transistor with open collector (OC) and management
of the microcontroller. To avoid de visible flicker, the PWM signal should be greater than 100Hz (>200 Hz is recommended).
Permanent applied voltage of 0.3 V or lower the EN input turns out to state and switches off the device from the current state to the
low-power standby mode. Left open if not used.

To meet the conducted emmissions requirements of EN 55022 class B circuit must include input filter..

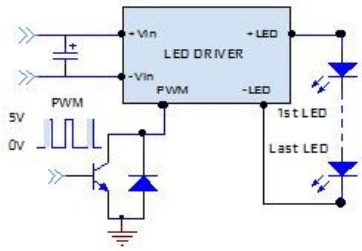
Mechanical dimensions are minimized . Size plates mounted thereon a rectangular shape with a size 30x25mm and 5.4mm height, including the PCB allows you to integrate this driver together with the LED module.

Module with half holes are solder to the base material . Models also available with wire leads.

Also suitable to mobile lighting system .

Driving the PWM input via open collector transistor

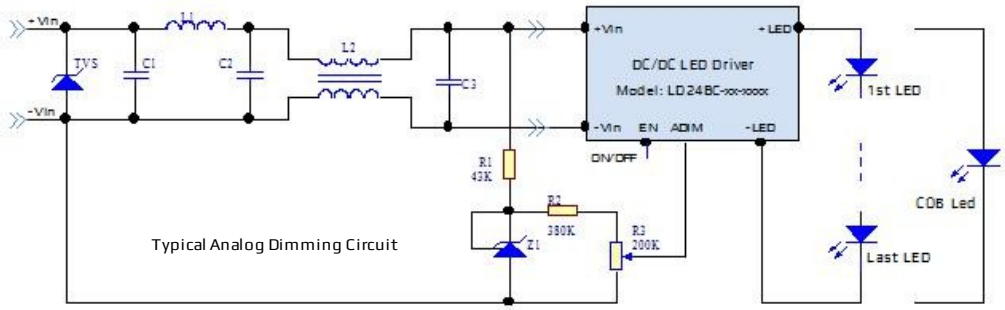
The diode and integrated resistor suppress possible high amplitude negative spikes on the PWM input resulting from the drain-source capacitance of the transistor. Negative spikes at the input to the device should be avoided as they may cause errors in output current, or erratic device operation.



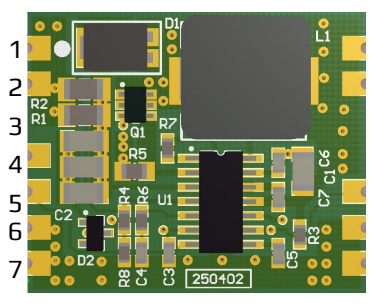
LD24BC Series Module Technical Specification

Model No.	LD24BC-xx-yyyy	
Device	Design Operating Frequency Typical Efficiency	Constant Current, DC/DC Boost LED Driver 350 kHz 95 %
Input	Voltage	Wide input range of 8V to 36V DC, 24V nominal
Output	Voltage Output Power Protection Current Accuracy Current Stability	13V to 42VDC for one COB LED or 10 HP WLED 3 to 35 W Regulated At Rated Output Current ±5.0 % ±5.0 %
Functions	Remote On/Off Control Analog Dimming PWM Dimming	Enable Input 0.2V DC to 1.2V DC for 0% - 100% of Current Range 0.1 - 100 kHz, max 0-5V
Environmental	Operating temperature Storage temperature Humidity Cooling	-40° C to + 85° C -55° C to + 125 ° C 95 % Free Air Convection
Warranty		2 year
Feature	Dimension(L*W*H) Weight	30.0*25.0*5.4 mm TBD

Analog Dimming Connection Notes:
1. The input components (C1, L1,L2, C2, C3) are used to meet the conducted emmissions requirements of EN 55022 class B. Components values may need to be changed slightly depending upon application variables.
2. To comply with EN61000-4-5, a TVS should be instaled before the input filter components. The TVS max.
clamping voltage (@ max peak pulse current Vc) must be less 38V.
3. As shown in the table (Analog Dimming) above, the output current of the unit can be set by adjusting voltage level on the ADIM input to a value between 0.2V and 1.2V (Iout will vary from 0% to 100% of rated output current. Care must be taken not to exceed 5.0V on this input. Value larger than this level may be damage the driver. In the circuit above, the voltage level at the ADIM input is set by a simple resistor network (R1, R2, R3). The regulator(Z1) define the voltage across R2 and R3 and will be less that 1.2V. The value of R1 is given for a 24V input



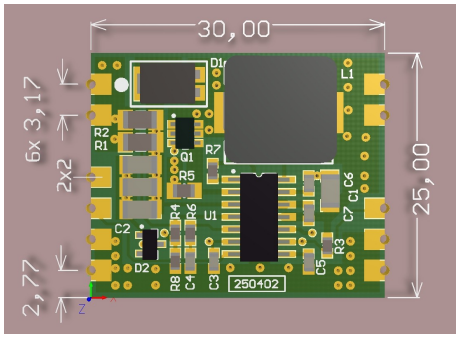
Typical Analog Dimming Circuit



Pin Connection

Pin	Signal	Description
1, 2	+ LED	LED Anode Connection
3	NA	NOT Applicable
4	ADIM	Analog Dimming
5	PWM	PWM Dimming
6, 7	- LED	LED Catode Connection *
8, 9	- Vin	Negative Terminal of the Source
10	EN	Enable
11, 12	NA	NOT Applicable
13, 14	+ Vin	Positive Terminal of the Source

* Internally connected to -Vin



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