Specification

PRODUCT NAME: HIGH POWER LED DRIVER

MODEL NAME: LD1263 Series(LD1263PWM)

DOCUMENT NO. :	EFFECTIVE DATE :	VERSION : 0.2	PAGE :
Ver.	**Description**		**Effective date**
0.2	_		

APPROVED	*CHECKED*		*PREPARED*	
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□*VP*	□*EE*	□*ME*	□*EMI &* *SAFETY*	□*Layout*

LD1263PWM, LD1263ADN

CONTENT

1.0 General Description:

LD1263 series LED Driver is High Power & High efficiency Led driver board which is intended to design for Led based panel to replace the CCFL with good performance and quality.

1.1 Feature:

- By model option to support linear analog voltage or digital pulse width modulation (PWM) to adjust LED brightness
- Support positive Pulse modulation (LD1263PWM)
- ON/OFF Pin to enable or disable Led driver
- Independent Current output
- Over Voltage protection
- LED Output Short circuit protection
- 12V DC input (default model).
- 5V DC input (optional model ,operated in some condition)
- Normally 90% high efficiency transformation
- Adjustable for the Led output Current by resistor (Rset)
- Thermal protection
- RoHs Compliant

1.2 Application:

- LED Panel LightBar
- LED relative Appliances

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2.0 GENERAL SPECIFICATION:

Item	Description
Length	93.4mm
Width	32.5mm
Input Voltage	12V or 24V
Output Voltage	30V(5V IN), 52V(12V IN)
Max. Output current	TBD
Line Ripple	<=10 %
efficiency	>=85 %
Dimming	Analog(0-5V) or PWM(200Hz is recommended)
Working environment	
Life Cycle	100K hours /M.T.B.F

3.0 Ordering Information

- **LD1263PWM_XXXXXXXX**----**LD1263 with PWM dimming , XXXXXXXXX is Panel P/N**

4.0 BLOCK DIAGRAM:

12V/5V DC IN		DC/DC PRE-BOOST	
GND			LED OUTPUT
ON/OFF		DC/DC POST-BOOST	
0 to 5V analog			
PWM		PWM Control	Current Sense & Control
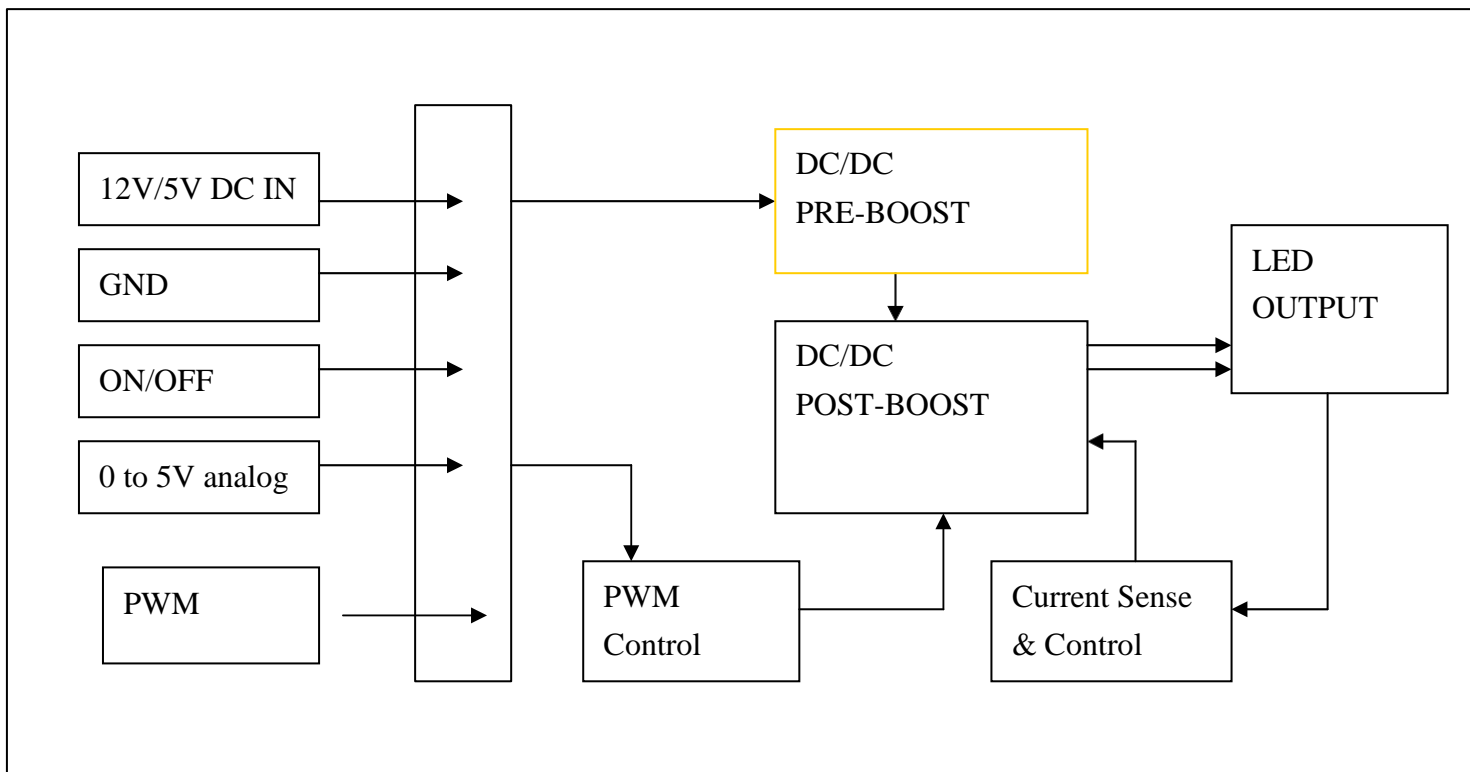
Fig 1   Block Diagram

LD1263PWM, LD1263ADN

5.0 Board Dimension:

5.1 LAYOUT & Dimension

M3 Screw Hole

JP2 5PIN ,PIN1

J1,15PIN,Molex

M3 Screw Hole
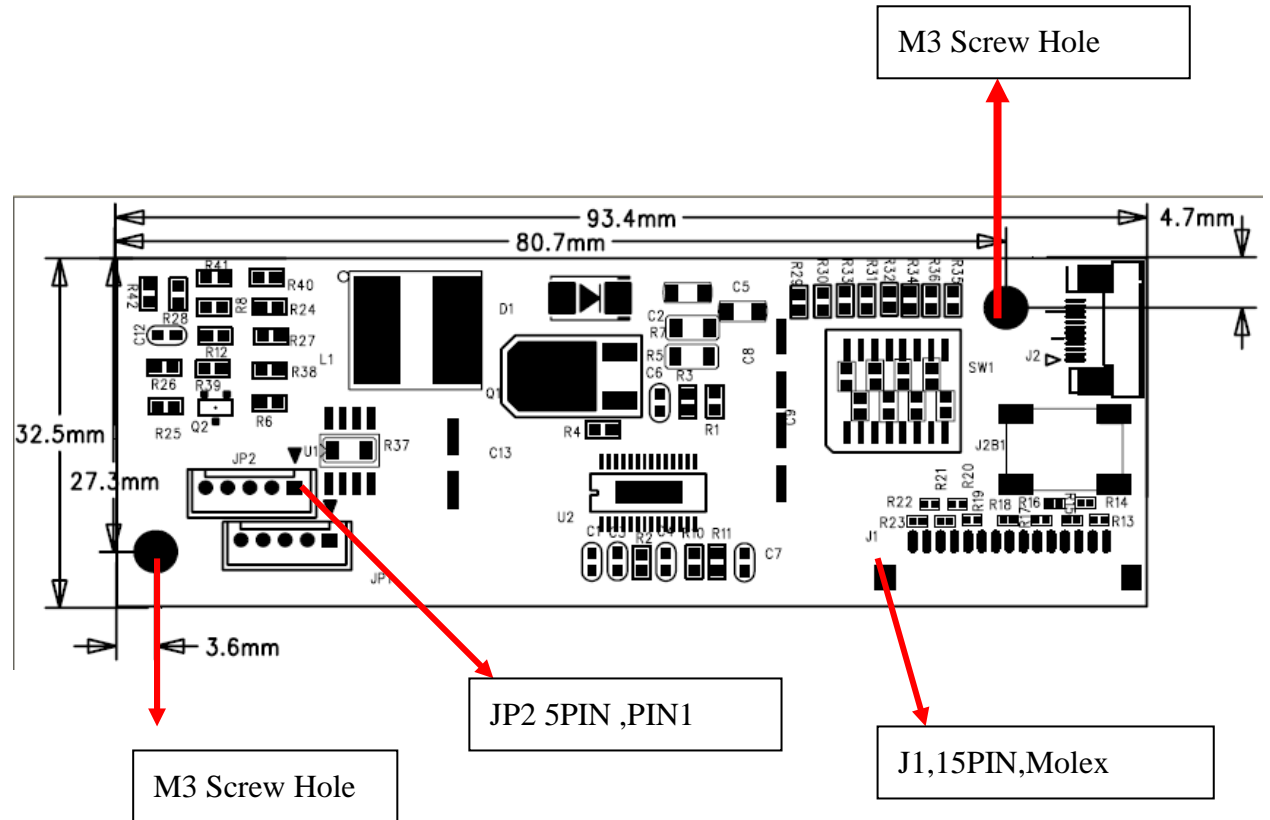
LD1263PWM, LD1263ADN

5.2 Picture :

| PIN 5 | PIN 1 | | PIN 15 | PIN 1 |

JP2: PHR,2.0mm

J1: Molex 1.25mm(53261-1571)

PIN 1: PWM

PIN2:

PIN 3: Enable

PIN 4: Ground

PIN 5: 12V/5V DCIN

PIN 1: VCH1-	**PIN 9: VLED+**
PIN 2: VCH2-	**PIN 10: VCH7-**
PIN 3: VCH3-	**PIN 11: VCH8-**
PIN 4: VCH4-	**PIN 12: VCH9-**
PIN 5: VCH5-	**PIN 13: VCH10-**
PIN 6: VCH6-	**PIN 14: VCH11-**
PIN 7: VLED+	**PIN 15: VCH12-**
PIN 8: VLED+	

6. Connector I/O definition

6.1 Input Pin Definition

Input Side : JP2 , 5 PIN , JST ,PHR connector, pitch=2.0mm

PIN	PIN NAME	Description	
5	VDD	DC 12V Input	
4	GND	GND PIN	
3	ENABLE	LED ON/OFF control, High is for enable ,Low is for disable. The range is 0V to 5V	
2	Analog dimming		note
1	PWM Dimming	PWM : 150 Hz to 500 Hz, 200 Hz is recommended (this pin is supported by LD1263PWM only)	note

PWM Operation : Frequency can be from 100 Hz up 500 Hz

5 V

0 V

Dark
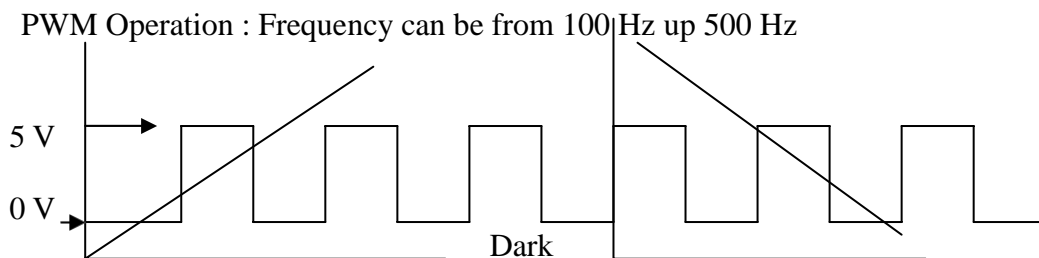
Brightness

6.2 Output Pin Definition

OUTPUT SIDE 2: 2 PIN, BHSR-02VS-1 (JST)

PIN	PIN NAME	Description
1	LED_Positive	LED Positive Voltage
2	LED_Negative	LED Negative Voltage

Output Side 3:   J1 : 15 Pin, Molex 53261-1571,pitch=1.25mm

PIN	PIN NAME	Description
1	VCH1-	LED channel 1
2	VCH2-	LED channel 2
3	VCH3-	LED channel 3
4	VCH4-	LED channel 4
5	VCH5-	LED channel 5
6	VCH6-	LED channel 6
7	VLED+	LED High Voltage
8	VLED+	LED High Voltage
9	VLED+	LED High Voltage
10	VCH7-	LED channel 7
11	VCH8-	LED channel 8
12	VCH9-	LED channel 9
13	VCH10-	LED channel 10
14	VCH11-	LED channel 11
15	VCH12-	LED channel 12

7.0 Electrical Absolute Rating

Parameter	Min. Value	Max. value	Unit
VDD	5		V
Enable Pin	--	8	V
Neg. Dimming	--	6	V
Pos. Dimming	--	6	V

8.0 Electrical   Rating

Parameter	Symbol	Min.	Typical	Max.	Unit
VDD		5			V
Enable Pin	ViH	2.0	3.3~5	8	V
	ViL	___	0	0.6	V
Neg. Dimming	ViH	3.3 note	5	6	V
	ViL	------	0	0.6	V
Pos. Dimming	ViH	3.3 note	5	6	V
	ViL	___	0	0.6	

9.0 Application Note:

1. How to calculate and decide the independent current on each Led channel ?

The LD1263 use different Rset value to decide to the Independent the LED current. Here,the Rset resistor on the LD1263 series is **R11,which is located and shown as below,**
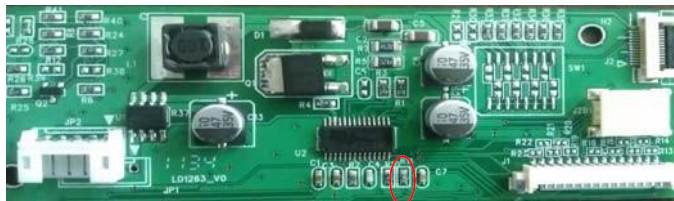
R11 is Rset resistor

the Rset value is s set by the formula:

Rset= 1200V/ I , where I is LED independent current.

For Example: Rset=30K, then the Led driver will maintain 40mA in each independent LED channel

For Example : Rset=60K, then the LED driver will maintain 20mA in each independent LED channel

Please note the independent current on each channel should work with the different Led cable wiring configuration supported by different Panel model in order to match the Panel Led structure. The wrong Led cable might cause the panel fatal damage.

2: How to tell the difference between the LD1263_PWM and LD1263_ADN ??

The LD1263PWM driver is input by PWM to control the LED dimming, however
The LD1263ADN driver is input by analog voltage from 0V to 5V to adjust the dimming,

LD1263PWM, LD1263ADN

the difference between 2Led drivers is to check specific resistors assembly or not

The table is shown as blow :

Model Name	PIN out	Dimming Control	Special Resistors reference
LD1263PWM	PIN 1	PWM	R8,R38 is NC (not assembly) R39 is On(assembly)
LD1263ADN	PIN 2	Analog Voltage	R38,R39 is NC (not assembly) R8 is On(assembly)

R38

R39

R8