



- ☐ Draft Specifications
- ☐ Preliminary Specifications
- ☒ Final Specifications

Title	Backlight Driver Board
Model Name	DB-LD1B-xx (the "XX" depend on panel type)
Doc Version	0

Customer

Approved by

Date

Notice: This Specification is subject to change without notice.

Approved By	Prepared By
Tony Chiu	Frank Kuo
2026-07-28	2026-07-28



REVISION HISTORY

Version	ECN No.	Description of Changes	Date	Prepared
0		Final specification first edition	2026-07-28	Frank Kuo



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1. OVERVIEW

1.1. INTRODUCTION

Wide Temperature Industrial LED Backlight Driver Board Support TFT LCD Panel .

1.2. FEATURES

- PWM Dimming Control
- Enable On/OFF Control
- Driving up to 4 Channels Merged into one (or two) LED String
- With OVP and OCP Function
- Temperature Range : Operating(°C) -30~85 / Storage(°C) -40~85
- MTBF : 1,000,000 hrs
- RoHS product
- Safety Regulations : UL

2. ABSOLUTE MAXIMUM RATINGS

The followings are maximum values which, if exceed, may cause faulty operation or damage to the unit.

Parameter	Symbol	Min.	Max.	Unit
B/L Driving Board Input Voltage	BL_Vin	-0.3	+30	V
B/L Driving Board Control Signal Voltage	BL_EN,PWM	---	5.5	V
Operating Temperature	T _{op}	-30	+85	°C
Storage Temperature	T _{st}	-40	+85	°C
Operating Humidity	H _{op}	---	85	%RH

Note: A well-designed thermal dissipation structure is recommended.

3. ELECTRICAL CHARACTERISTICS

Parameter		Min.	Typ.	Max.	Unit
Input Voltage	BL_Vin	10.8	12.0	26	V
Input Current	BL_lin	---	---	4	A
Output Voltage	Vout	---	---	61	V
Efficiency	Eff.	---	80	---	%
Sub Current	Iout	---	---	200	mA
Total Current	Iout	---	---	800	mA
LED ON/OFF	Von	2.5	---	5.0	V
	Voff	---	---	0.5	
Dimming	PWM High Level	2.5	---	5.0	V
	PWM Low Level	---	---	0.5	V
	PWM Duty Cycle	5	---	100	%
	PWM Frequency	0.1	---	20	KHz

Note

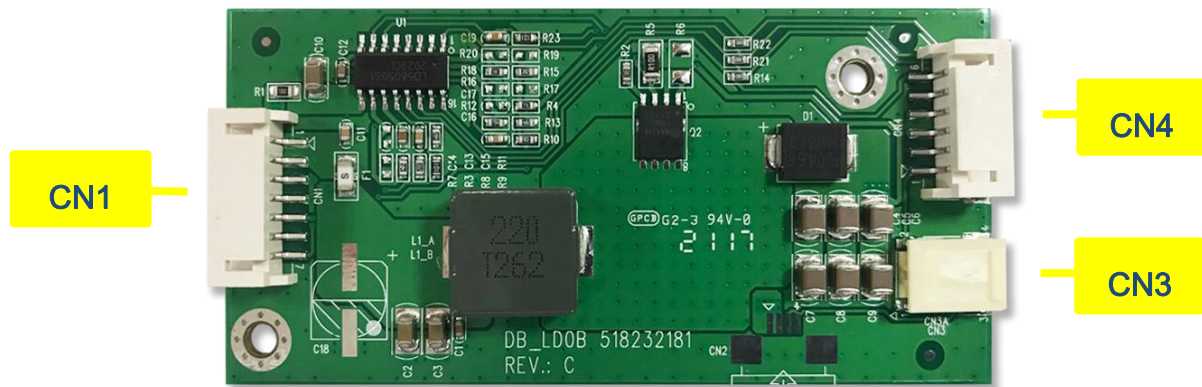
Note

Note

Note : Depend on panel type

4. INPUT TERMINAL PIN ASSIGNMENT

4.1. INTERFACE



- CN1 : Input Connector
- CN4 : Output Connector
- CN3 : Output Connector

4.2. SIGNAL CONNECTIONS

- Input Connector

Location – CN1 : 7pin wafer , pitch 2.0mm R/A , STM MS24267R or equivalent

Pin Assign and Definition

Pin No.	Symbol	Pin No.	Symbol	Pin No.	Symbol
1	BL_Vin	4	GND	7	ADJ
2	BL_Vin	5	ON/OFF	---	-----
3	GND	6	NC	---	-----

- Output Connector

Location – CN4 : 6pin wafer , pitch 2.0mm R/A , STM MS24266R or equivalent

Pin Assign and Definition

Pin No.	Symbol	Pin No.	Symbol
1	IRLED	4	VLED+
2	IRLED	5	IRLED
3	VLED+	6	IRLED

Location – CN3 : 2pin wafer , pitch 2.0mm R/A , CP0502P1ML0 or equivalent

Pin Assign and Definition

Pin No.	Symbol
1	VLED+
2	IRLED

5. RELIABILITY TEST ITEMS

Test Item		Condition
1	High temperature/Humidity Bias	85°C, 85% 24hrs
2	High temperature storage test	85°C, 24hrs
3	Low temperature storage test	-40°C, 24hrs
4	High temperature operation test	85°C, 24hrs
5	Low temperature operation test	-30°C, 24hrs
6	Thermal Cycle operation test	-30°C~85°C, 6cycles, 24hrs

6. LABEL

Model NO. DB-LD1B-XX

條碼

SN 1D Z 20 2 21 0 XXX1

code 1,2 Production location

code 3 Production code

code 4,5 Production year

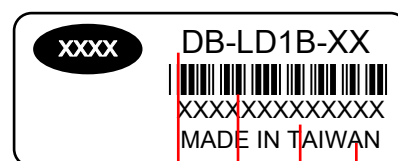
code 6 Production month

code 7,8 Production day

code 9 Production code

code 10,11,12,13 Serial number

L=32mm



W=14mm

Arial (4)

Arial (7)

Code:128

Arial (8)

7. MECHANICAL CHARACTERISTICS

Item		Dimension	Unit	Note
Outline Dimension	Horizontal	84.00	mm	BL Driver Board : DB-LD1B-**
	Vertical	40.80	mm	
	Depth (min.)	8.50	mm	
	USER Hole	Ø3.20*2	mm	
Weight		21	g	

8. ENGINEERING DRAWING

USER HOLD : 3.2mm x2

