億力光電股份有限公司
EVERVISION ELECTRONICS CO., LTD.

Product Specification For LCD Module

(KVPF-7B-002-16)

Model NO.：VGG322445-7UFLWF(RoHS)

REVISION：1

■ APPROVAL FOR SPECIFICATIONS ONLY

□APPROVAL FOR SPECIFICATIONS AND SAMPLE

CUSTOMER： STD.	APPROVED BY：

EVERVISION LCM R&D CENTER

APPROVED BY	CHECKED BY		PREPARED BY	
Evervision 2022.12.27 Roger Chu	Evervision 2022.12.27 Allen Chang	Evervision 2022.12.27 Ino Yu	Evervision 2022.12.27 Jane Chiang	Evervision 2022.12.27 Johnny Chan
DIRECTOR	MANAGER		Mechanism Engineer	Electronic Engineer

億力光電股份有限公司總公司
EVERVISION ELECTRONICS CO., LTD.
新北市中和區建一路 186 號 6 樓
6F., No.186, Jian 1st Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan
TEL：+886 2 8227-2788
FAX：+886 2 8227-2799

億力光電股份有限公司台中分公司
EVERVISION ELECTRONICS CO., LTD.
-Taichung Branch
台中市潭子區建國路 19 號
No.19, Jianguo Rd., Tanzi Dist.,
Taichung City 427, Taiwan TEL
：+886 4 2532-8889
FAX：+886 4 2532-6689

勁佳光電(昆山)有限公司
VBEST ELECTRONICS(KUNSHAN) Co., Ltd.
江蘇省昆山市玉山鎮高科技工業園城北路 8 號

Represented by:

first FC components
FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

http://www.evervisionlcd.com

1. Table of Contents

No.	Contents	Page
1	Table of Contents	2
2	Record of Revisions	3
3	Module Numbering System	4
4	Application	5
5	Features	5
6	General Specifications	5
7	Absolute Maximum Ratings	6
8	Electrical Characteristics	7
9	Block Diagram	9
10	Input / Output Terminals Pin Assignment	10
11	Interface Timing	14
12	Optical Characteristics	16
13	Reliability Test	19
14	Packaging	20
15	Precautions	21
16	Outline Drawing	23
17	Definition of Labels	24
18	Incoming Inspection Standards	26

first components

2. Record of Revisions

Rev.	Comments	Page	Date
1	Preliminary Specification was first issued.	All	12/27'22

first FC components

4. Application

This specification is applied to the 5.7 inch QVGA supported TFT-LCD module, and can display true 262,144 colors(6 bit/ color). This module is composed of a 5.7”TFT-LCD panel, a driver circuit and LED backlight unit.

5. Features

- QVGA (320×240 pixels) resolution.
- Digital 18 bit parallel RGB.
- LED driver circuit is built in this module to provide PWM Dimmer function.

6. General Specifications

Item	Specifications	Unit
Screen Size	5.7 (Diagonal)	inch
Display Format	320RGB(H)×240(V)	dot
Active Area	115.2(H)×86.4(V)	mm
Pixel Size	0.360(H)×0.360(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	TN Type/ Transmissive Mode/ Normally White	-
Surface Treatment	Anti-Glare	-
Viewing Direction	12 O’clock (The Gray Inversion will appear at this direction)	-
Outline Dimension	144.0(W)×104.6(H)×13.0(D)	mm
Weight	(TBD)	g
RoHS Compliance	RoHS Compliance	-

first components

7. Absolute Maximum Ratings

7.1 Absolute Ratings of Environment

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T_{ST}	-30	+80	°C	(1)(2)
Operating Temperature	T_{OP}	-20	+70	°C	(1)(2)

Note1: Background color changes slightly depending on ambient temperature. This phenomenon is reversible.

Note2: Please refer to item of RELIABILITY.

7.2 Electrical Absolute Ratings

7.2.1 TFT-LCD Module

(Ta=25±2°C, GND=VSS=0V)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Digital Power Supply Voltage	VCC	-0.3	4.3	V	-

7.2.2 Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
LED Driver Supply Voltage	VLED	-0.3	17	V	(1)
LED Driver PWM	PWM	-0.3	6	V	(1)

Note (1) Permanent damage to the device may occur if maximum values are exceeded or reverse voltage is loaded.

8. Electrical Characteristics

8.1 TFT-LCD Module

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VCC	3.0	3.3	3.6	V	-
Power Supply Current	ICC	-	(TBD)	(TBD)	mA	(1)
Input High Threshold Voltage	VIH	0.7VCC	-	VCC	V	-
Input Low Threshold Voltage	VIL	0	-	0.3VCC	V	-
Frame Frequency	F_V	-	60	-	Hz	-

Note (1) The specified power consumption is under the conditions at VCC=3.3V, F_V=60Hz, whereas a power dissipation check pattern below is displayed.

Black Pattern / 0 Gray



Active Area

8.2 LED Driver Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Voltage of LED Driver Unit	$V_{LED(DU)}$	4.5	5.0	12.5	V	-
Voltage of LED Driver Unit	$V_{LED(DU)}$	4.5	12.0	12.5	V	-
Current of LED Driver Unit	$I_{LED(DU)}$	-	500	700	mA	I_{LED}=200mA, V_{LED}=5V
Current of LED Driver Unit	$I_{LED(DU)}$	-	370	518	mA	I_{LED}=150mA, V_{LED}=5V
Current of LED Driver Unit	$I_{LED(DU)}$	-	260	364	mA	I_{LED}=100mA, V_{LED}=5V
Current of LED Driver Unit	$I_{LED(DU)}$	-	230	322	mA	I_{LED}=200mA, V_{LED}=12V
Current of LED Driver Unit	$I_{LED(DU)}$	-	170	238	mA	I_{LED}=150mA, V_{LED}=12V
Current of LED Driver Unit	$I_{LED(DU)}$	-	110	154	mA	I_{LED}=100mA, V_{LED}=12V
PWM Signal Low Voltage	V_{PWML}	0	-	0.4	V	-
PWM Signal High Voltage	V_{PWMH}	1.4	-	5.5	V	-
PWM frequency	f_{PWM}	100	-	1000	Hz	-
LED Life Time(25℃)	-	40000	50000	-	hr	(1)(2)

PWM=High:ON, PWM=Low:OFF

Note (1)： LED life time is defined as under 25±2°C , when the average brightness decrease to 50% of original brightness

Note (2)： Lifetime statement is concerning to the max backlight current of 200mA.

10. Input / Output Terminals Pin Assignment

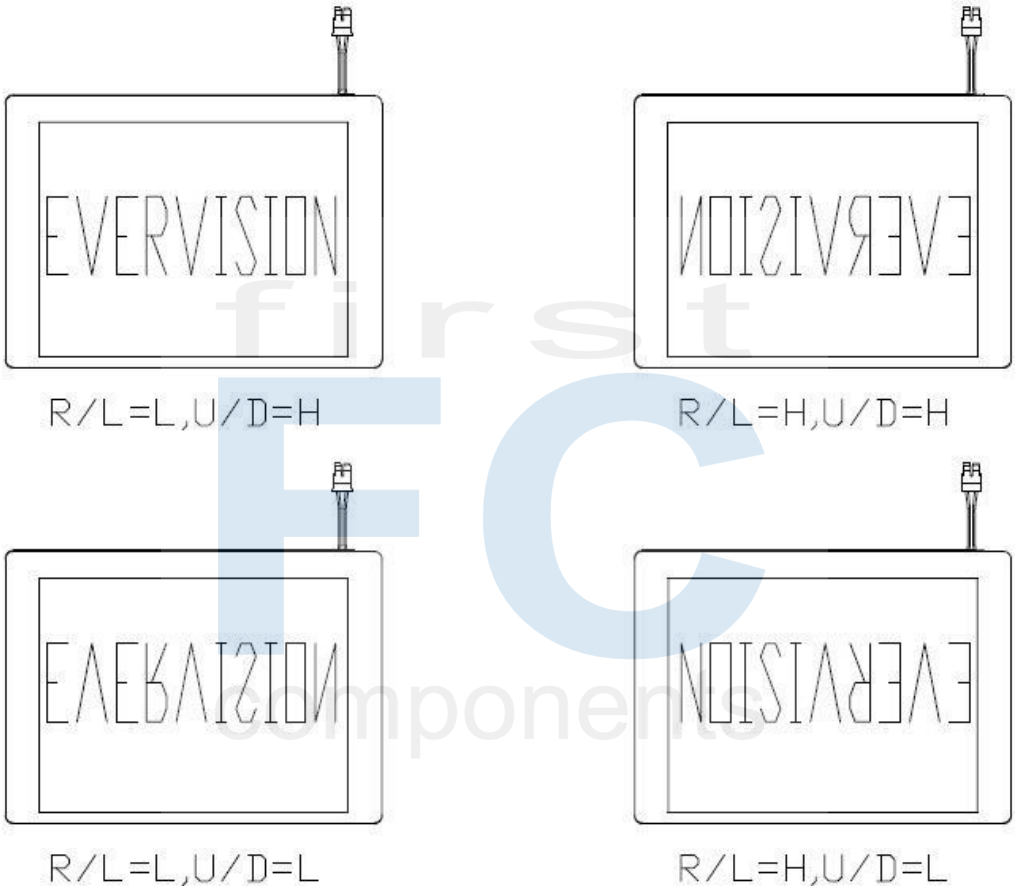
10.1 TFT-LCD Module

Connector: CVILUX CF25331D0R0-05 or compatible connector

Pin No.	Symbol	I/O	Description
1	VSS	I	Ground
2	CLK	I	Clock signal
3	IHS	I	Horizontal synchronous signal
4	IVS	I	Vertical synchronous signal
5	VSS	I	Ground
6	R0	I	RED data (LSB)
7	R1	I	RED data
8	R2	I	RED data
9	R3	I	RED data
10	R4	I	RED data
11	R5	I	RED data(MSB)
12	VSS	I	Ground
13	G0	I	GREEN data(LSB)
14	G1	I	GREEN data
15	G2	I	GREEN data
16	G3	I	GREEN data
17	G4	I	GREEN data
18	G5	I	GREEN data(MSB)
19	VSS	I	Ground
20	B0	I	Blue data(LSB)
21	B1	I	Blue data
22	B2	I	Blue data
23	B3	I	Blue data
24	B4	I	Blue data
25	B5	I	Blue data(MSB)
26	VSS	I	Ground
27	DEN	I	Input data enable control
28	VCC	I	+3.3V power supply
29	VCC	I	+3.3V power supply
30	R/L	I	Right-and-Left scan setting. (“L” : Normally, “H” : Right-and-Left reversal) , Note(1)

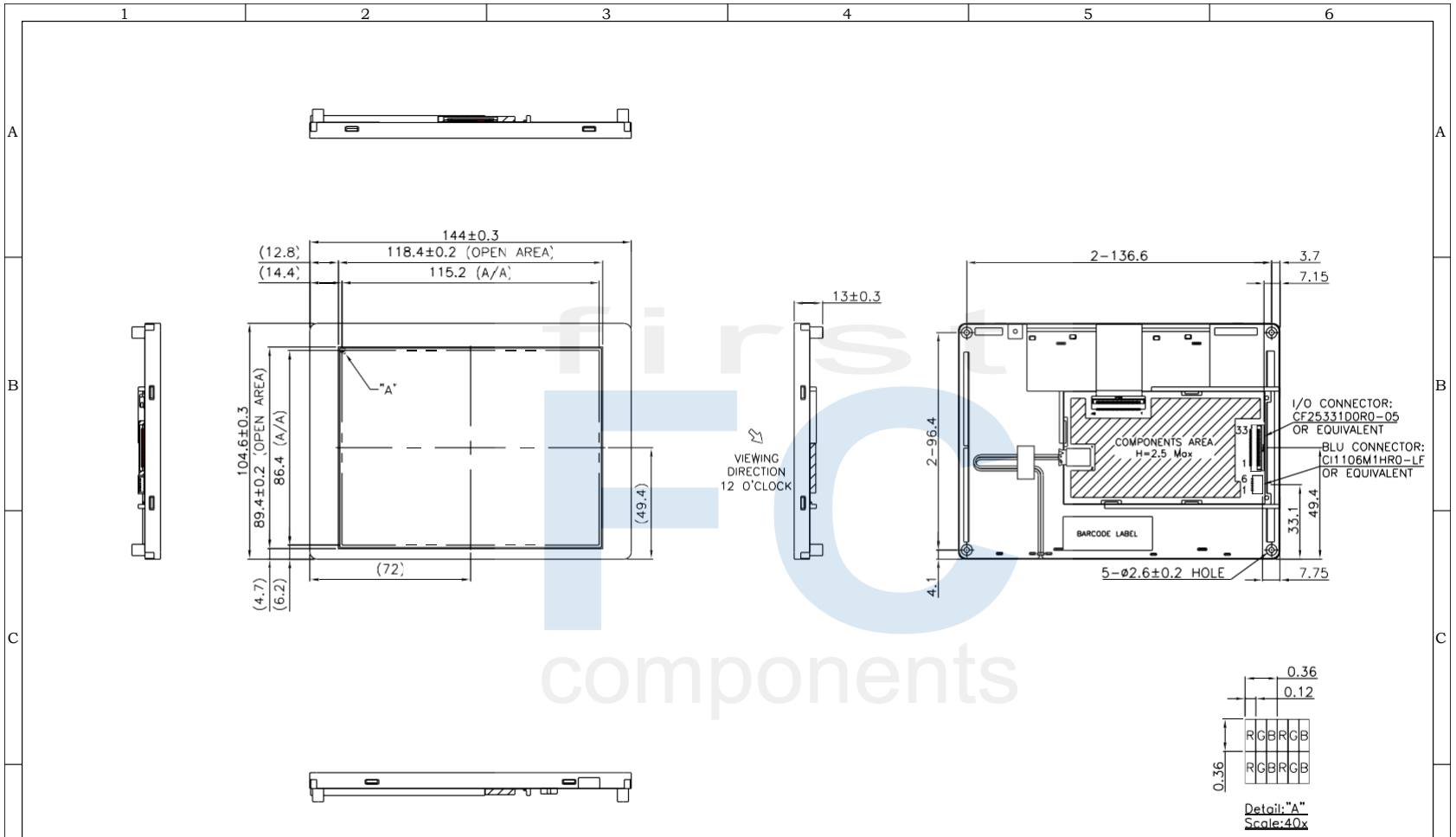
Pin No.	Symbol	I/O	Description
31	U/D	I	Up/down scan setting. (“H”: normal scan. “L”: Up-and-Down reversal.) , Note(1)
32	NC	I	No connection
33	VSS	I	Ground

Note (1)



first components

16. Outline Drawing



REVISION	DESCRIPTION	REVISER	DATE												
4				DRAWING	JANE	DATE	12/27'22	MODEL	VGG322445-7UFLWF						
3				CHECK		DATE		TYPE	Assembly						
2				APPROVE		DATE		PAGE	1 OF 1						
1	INITIAL DRAWING	JANE	12/27'22	TOLERANCE	.X	± 0.5	.XX	± 0.5	.X°	±	REV.	1	UNIT	mm	(3)
				MATERIAL			Part Number				SCALE		SIZE	A4	

EVERVISION 億力光電股份有限公司

EVERVISION

MODEL NO. VGG322445-7UFLWF

SPEC ONLY

PAGE 23

first components