

SPECIFICATION FOR APPROVAL

(●) Preliminary Specification

() Final Specification

MODEL NAME : RS215HAN-GD25

APPROVED BY

REVIEWED BY

PREPARED BY

Lion / Engineer

1. General Description

This specification applies to the 21.5 inch Color TFT-LCD Module RS215HAN. This LCD module has a TFT active matrix type liquid crystal panel 1920x1080 pixels, and diagonal size of 21.5 inch.

It is intended to support displays where high brightness, wide viewing angle, High Tni LC(110°C).

* General Information

Items	Specification	Unit	Note
Active Screen Size	21.5 inches diagonal	inch	
Display Area	476.064 (H) x 267.786 (V)	mm	
Outline Dimension	495.2 (H) *291.49 (V)*20.8(D)	mm	D:MAX
Driver Element	a-Si TFT Active Matrix		
Display Colors	8-bit, 16.7M colors	colors	
Number of Pixels	1920 horiz. by 1080 vert	pixel	
Pixel Arrangement	RGB Vertical strip		
Display Mode	Transmissive mode, Normally black		
Surface Treatment	Anti-Glare (Haze 25%), 3H		
Interface	LVDS 2 port		
Center Luminance of White	2500	nits	MIN:2250
Weight	TBD	kg	

2. Absolute Maximum Ratings

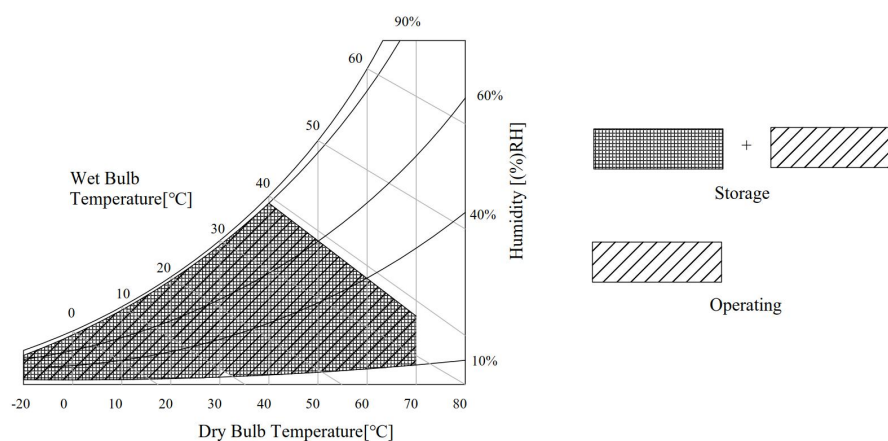
The followings are maximum values which, if exceeded, may cause faulty operation or damage to the unit.

Item	Symbol	Min	Max	Unit	Note
Logic/LCD Drive Voltage	Vcc	-0.3	6.0	[Volt]	1
Input Voltage of Signal	Vin	-	-	[Volt]	1
Operating Temperature	TOP	-20	+70	[°C]	2
Operating Humidity	HOP	10	90	[%RH]	2
Storage Temperature	TST	-20	70	[°C]	2
Storage Humidity	HST	10	90	[%RH]	2
Panel Surface Temperature	PST		110	[°C]	3

Note 1: Duration:50 msec.

Note 2 : Maximum Wet-Bulb should be 39°C and No condensation. The relative humidity must not exceed 90% non-condensing at temperatures of 40°C or less. At temperatures greater than 40°C, the wet bulb temperature must not exceed 39°C.

Note 3: Surface temperature is measured at 70 °C Dry condition.



3. Electrical Specification

3-1 TFT LCD Module

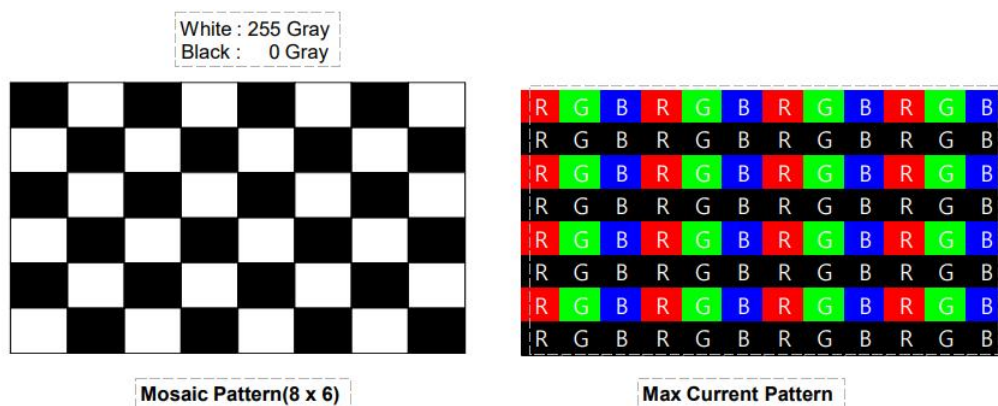
3-1-1 Power Specification

Item		Symbol	Vaule			Unit	Note
			Min	TYP	Max		
Power Input Voltage		VLCD	4.5	5.0	5.5	VDC	
Power Input Current		ILCD	-	460	550	mA	1
T-CON Option	Input High Voltage	VIH	2.7	-	3.3	VDC	
U-Selection Voltage	Input Low Voltage	VIL	0	-	0.6		
Power Consumption		PLCD	-	2.3	2.75	Walt	1
Rush current			-	-	3.0	A	2

Note 1. The supply voltage is measured and specified at the interface connector of LCM. The current draw and power consumption specified is for VDD=5.0V, Frame rate fV=60Hz and Clock frequency = 75.4MHz.

Test Pattern of power supply current

- The duration of rush current is about 2ms and rising time of Power Input is 1ms(min)



3-2. Interface Connections

30-pin connector is used for the module electronics.

3-2-1. LCD Module

- LCD Connector:FI-X30HL (JAE)

PIN NO	Symbol	Description	Remark
1	RxO0-	Negative LVDS differential data input (Odd data)	
2	RxO0+	Positive LVDS differential data input (Odd data)	
3	RxO1-	Negative LVDS differential data input (Odd data)	
4	RxO1+	Positive LVDS differential data input (Odd data)	
5	RxO2-	Negative LVDS differential data input (Odd data)	
6	RxO2+	Positive LVDS differential data input (Odd data)	
7	GND	Ground	
8	RxOCLK-	Negative LVDS differential clock input (Odd clock)	
9	RxOCLK+	Positive LVDS differential clock input (Odd clock)	
10	RxO3-	Negative LVDS differential data input (Odd data)	
11	RxO3+	Positive LVDS differential data input (Odd data)	
12	RxE0-	Negative LVDS differential data input (Even data)	
13	RxE0+	Positive LVDS differential data input (Even data)	
14	GND	Ground	
15	RxE1-	Negative LVDS differential data input (Even data)	
16	RxE1+	Positive LVDS differential data input (Even data)	
17	GND	Ground	
18	RxE2-	Negative LVDS differential data input (Even data)	
19	RxE2+	Positive LVDS differential data input (Even data)	
20	RxECLK-	Negative LVDS differential clock input (Even clock)	
21	RxECLK+	Positive LVDS differential clock input (Even clock)	
22	RxE3-	Negative LVDS differential data input (Even data)	
23	RxE3+	Positive LVDS differential data input (Even data)	
24	GND	Ground	
25	NC	No Connection	
26	NC	No Connection	
27	NC	No Connection	
28	VCC	Power Supply Input Voltage	
29	VCC	Power Supply Input Voltage	
30	VCC	Power Supply Input Voltage	

4. Backlight Electrical Specification

4-1 Electrical Specification

Parameter			Symbol	Values			Unit	Notes
				Min	Typ	Max		
Power Supply Input Voltage			VBL	11.5	24	13	Vdc	
Power Supply Input Current			IBL		2.32		A	
Power Consumption (Total)			PBL		55.68		W	MAX
Input Voltage for Control System Signals	On/Off	On	Von	2		5	Vdc	
		Off	Voff	0		0.5	Vdc	
	Brightnes Adjust		EXTVBR-B	30		100	%	Automatic light sensitive control
LED Light Bar Input Voltage			VLED		45.2		Vdc	
LED Light Bar Input Current			ILED		1100		mA	
Life Time				30000	50000		Hrs	1

Note1:

The life time is determined as the time at which brightness of the LED is 50% compared to that of initial value at the typical LED current on condition of continuous operating at 25 ±2°C, based on Brightest state.

4-2 Input Pin Assignment

4-2-1 LED Driver Board connector

CN1:CI0114M1HRL-NH(CviLux) or equivalent

CN1	Symbol	Description
1	VCC	Power Supply input Voltage
2	VCC	Power Supply input Voltage
3	VCC	Power Supply input Voltage
4	VCC	Power Supply input Voltage
5	VCC	Power Supply input Voltage
6	GND	Power ground
7	GND	Power ground
8	GND	Power ground
9	GND	Power ground
10	GND	Power ground
11	NC	Not connect
12	N/F	Backlight ON/OFF control
13	NC	Not connect
14	NC	Not connect

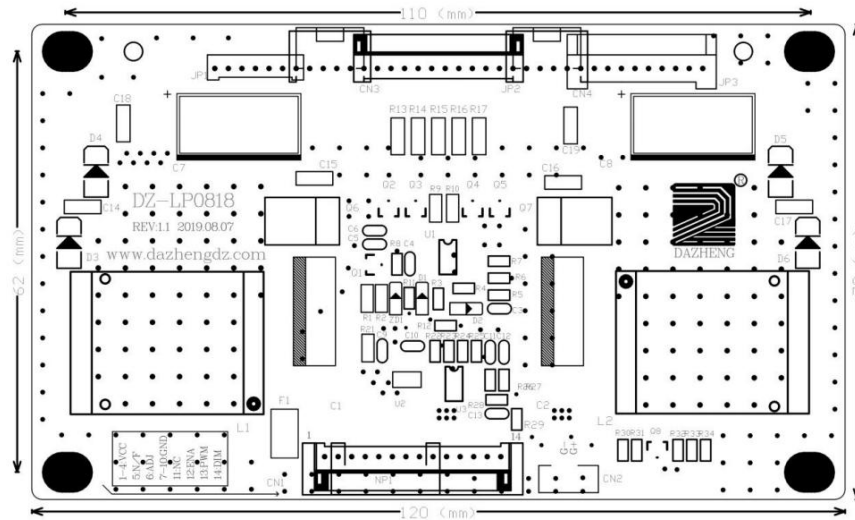
CN2 : PH1.25-2PIN (1.25mm*2) Light sensor connector

CN2	Symbol	Description
1	G+	Light sensor anode
2	G-	Light sensor cathode

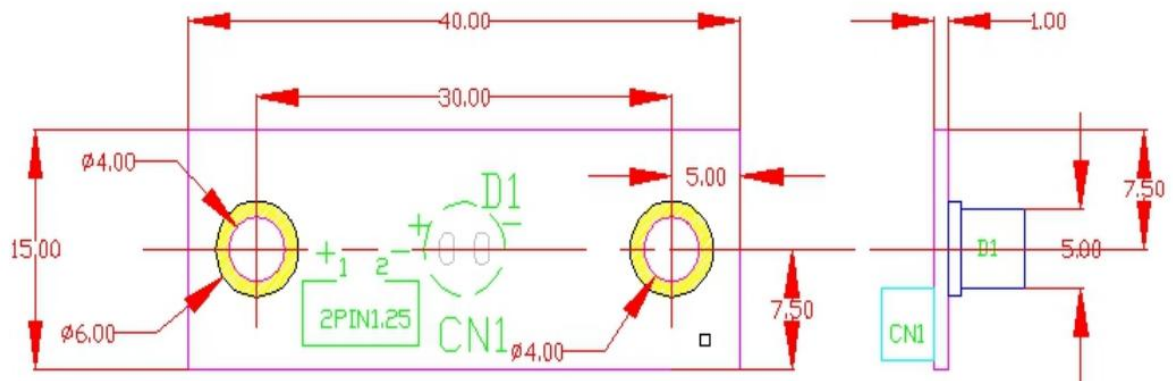
CN3/CN4 : PH2.0-2PIN (2.0mm*2) LED Light Bar Current output connector

CN3/CN4	Symbol	Description
1	LED+	LED Light Bar Current outputr anode
2	LED+	LED Light Bar Current outputr anode
3	LED-	LED Light Bar Current output cathode
4	LED-	LED Light Bar Current output cathode

LED Driver Board dimensional drawing



Light Sensor Board dimensional drawing



5. Mechanical Characteristics

UNIT:mm

