SPECIFICATION
FOR
APPROVAL

(●) Preliminary Specification

( ) Final Specification

MODEL NAME : RS420WHB-GD20

APPROVED BY

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REVIEWED BY

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PREPARED BY

Lion / Engineer

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1. General Description

This specification applies to the 42 inch Color TFT-LCD open cell RS420WHB. This LCD open cell has a TFT active matrix type liquid crystal panel with 1920x480 pixels and LVDS interface; which can display up to 16.7 million colors. This model is intended to support displays where wide viewing angle, high color saturation, high color depth.and High Tni (110°C) liquid crystal is also applied on this model.

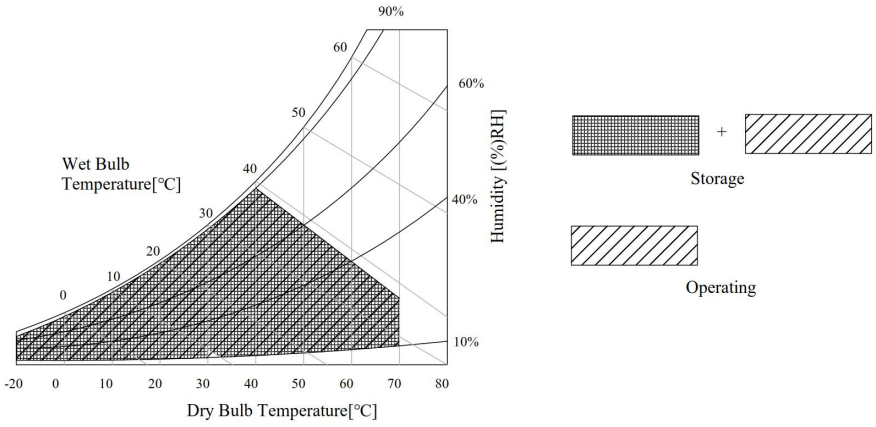
*** General Information**

Items	Specification	Unit	Note
Active Screen Size	42.8 inches diagonal	inch	
Display Area	1039.68（H）*259.92(V)	mm	
Outline Dimension	1073.6（H）*298.6(V)*58.1(D)	mm	D:MAX
Driver Element	a-Si TFT Active Matrix		
Display Colors	10-bit(D), 1.07 Billion colors	colors	
Number of Pixels	1920 horiz. by 480 vert	pixel	
Pixel Arrangement	RGB Vertical strip		
Display Mode	Transmissive mode, Normally black		
Surface Treatment	Hard coating(3H), Anti-glare low reflection treatment of the front polarizer (Haze 28%(Typ.))		
Interface	LVDS 2 port		
Center Luminance of White	2000	nits	
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	14	[Volt]	1
Input Voltage of Signal	Vin	-0.3	4	[Volt]	1
Operating Temperature	TOP	-20	+70	[℃]	2
Operating Humidity	HOP	10	90	[%RH]	2
Storage Temperature	TST	-20	70	[℃]	2
Storage Humidity	HST	10	90	[%RH]	2
Panel Surface Temperature	PST		105	[℃]	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

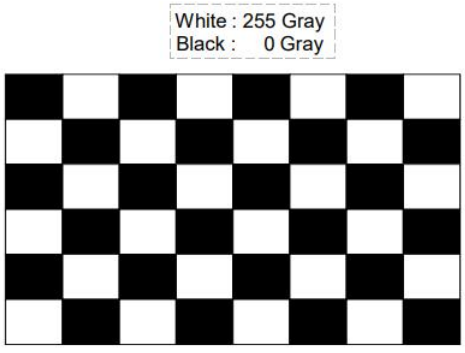
Item		Symbol	Vaule			Unit	Note
			Min	TYP	Max		
Power Input Voltage		VLCD	10.8	12	13.2	VDC	4
Power Input Current		ILCD	-	309	371	mA	1
			-	516	619	mA	2
T-CON Option U-Selection Voltage	Input High Voltage	VIH	2.7	-	3.6	VDC	
	Input Low Voltage	VIL	0	-	0.7		
Power Consumption		PLCD	-	3.708	4.45	Walt	1
			-	6.192	7.43	Walt	2
Rush current			-	-	1.44	A	3

Note 1. The specified current and power consumption are under the V_{LCD}=12.0V, Ta=25 °C, fv=60Hz condition, and mosaic pattern(8 x 6) is displayed and fv is the frame frequency.

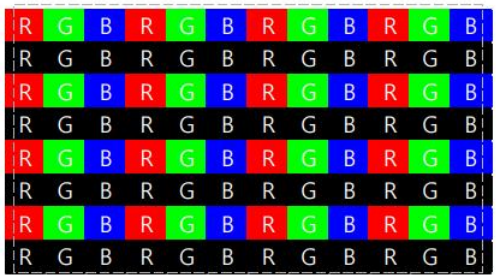
2. The current and power consumption are specified at the maximum current patter.

3. The duration of rush current is about 2ms and rising time of power input is 0.5ms (min.).

4. Ripple voltage level is recommended under ±5% of typical voltage



Mosaic Pattern(8 x 6)



Max Current Pattern

3-2. Interface Connections

This LCD module employs two kinds of interface connection, 51-pin connector is used for the module electronics.

3-2-1. LCD Module

- LCD Connector(CN1): FI-RE51S-HF(manufactured by JAE) or GT05S-51S-H38(manufactured by LSM) or IS050-C51B-C39(manufactured by UJU) or 05030WR-H51B(manufactured by YEONHO)
- Mating Connector : FI-RE51HL(JAE) or compatible

-	Symbol	Description	PIN	Symbol	Description
1	NC	No Connection	27	NC	No Connection
2	SCL	12C Serial Clock	28	CH2[0]-	LVDS Channel 2, Signal 0-
3	WP	EEPROM Write Protection High(3.3V) for Writable.Open/Low(GND) for Protection	29	CH2[0]+	LVDS Channel 2, Signal 0+
4	SDA	12C Serial Data	30	CH2[1]-	LVDS Channel 2, Signal 1-
5	BITSEL	LVDS 8/10bit input selection Open/ Low (GND): 8bits High (3.3V): 10bit	31	CH2[1]+	LVDS Channel 2, Signal 1+
6	NC	No Connection	32	CH2[2]-	LVDS Channel 2, Signal 2-
7	LVDS SEL	Open/ High (3.3V) for NS Low (GND) for JEIDA	33	CH2[2]+	LVDS Channel 2, Signal 2+
8	NC	No Connection	34	GND	Ground
9	NC	No Connection	35	CH2CLK-	LVDS Channel 2, clock-
10	NC	No Connection	36	CH2CLK+	LVDS Channel 2, clock+
11	GND	Ground	37	GND	Ground
12	CH1[0]-	LVDS Channel 1, Signal 0-	38	CH2[3]-	LVDS Channel 2, Signal 3-
13	CH1[0]+	LVDS Channel 1, Signal 0+	39	CH2[3]+	LVDS Channel 2, Signal 3+
14	CH1[1]-	LVDS Channel 1, Signal 1-	40	CH2[4]-	LVDS Channel 2, Signal 4-
15	CH1[1]+	LVDS Channel 1, Signal 1+	41	CH2[4]+	LVDS Channel 2, Signal4+
16	CH1[2]-	LVDS Channel 1, Signal 2-	42	NC or GND	No Connection or Ground
17	CH1[2]+	LVDS Channel 1, Signal 2+	43	NC or GND	No Connection or Ground
18	GND	Ground	44	GND	Ground
19	CH1CLK-	LVDS Channel 1, clock-	45	GND	Ground
20	CH1CLK+	LVDS Channel 1, clock+	46	GND	Ground
21	GND	Ground	47	NC	No Connection
22	CH1[3]-	LVDS Channel 1, Signal 3-	48	VCC	Input Voltage +12V
23	CH1[3]+	LVDS Channel 1, Signal 3+	49	VCC	Input Voltage +12V
24	CH1[4]-	LVDS Channel 1, Signal 4-	50	VCC	Input Voltage +12V
25	CH1[4]+	LVDS Channel 1, Signal 4+	51	VCC	Input Voltage +12V
26	NC or	No Connection or Ground			

Note

1. All GND(ground) pins should be connected together to the LCD module's metal frame.
2. All VLCD (power input) pins should be connected together.
3. All Input levels of LVDS signals are based on the EIA 644 Standard.
4. #1~#6 & #8~#10 NC (No Connection): These pins are used only for LGD (Do not connect)
5. Specific pin No. #44 is used for "No signal detection" of system signal interface.

It should be GND for NSB(No Signal Black) during the system interface signal is not.

If this pin is "H", LCD Module displays AGP(Auto Generation Pattern).

4. Backlight Electrical Specification

4-1 Electrical Specification

Parameter			Symbol	Values			Unit	Notes
				Min	Typ	Max		
Power Supply Input Voltage			VBL	22.5	24	25.6	Vdc	
Power Supply Input Current			IBL		-		A	
Power Consumption (Total)			PBL		TBD		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	40		100	%	Automatic light sensitive control
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℃, based on Brightest state.

4-2 Input Pin Assignment

4-2-1 LED DB connector

CN1:CI0114M1HRL-NH(CviLux) or equivalent

CN2:CI0112M1HRL-NH(CviLux) or equivalent

CN1	Symbol	Description	CN2	Symbol	Description
1	VCC	Power Supply Voltage	1	VCC	Power Supply Voltage
2	VCC	Power Supply Voltage	2	VCC	Power Supply Voltage
3	VCC	Power Supply Voltage	3	VCC	Power Supply Voltage
4	VCC	Power Supply Voltage	4	VCC	Power Supply Voltage
5	VCC	Power Supply Voltage	5	VCC	Power Supply Voltage
6	GND	Power ground	6	GND	Power ground
7	GND	Power ground	7	GND	Power ground
8	GND	Power ground	8	GND	Power ground
9	GND	Power ground	9	GND	Power ground
10	GND	Power ground	10	GND	Power ground
11	NC	Not connect	11	NC	Not connect
12	N/F	Backlight ON/OFF control	12	NC	Not connect
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

5. Mechanical Characteristics

UNIT:mm