

SPECIFICATION FOR APPROVAL

☒ Preliminary Specification

☐ Final Specification

MODEL NAME : RS290EJY-NE07

APPROVED BY

REVIEWED BY

PREPARED BY

Lion / Engineer

1. General Description

This specification applies to the 28.56 inch Color TFT-LCD Module RS290EJY. This LCD module has a TFT active matrix type liquid crystal panel 1920x540 pixels, and diagonal size of 28.56inch.

It is intended to support displays where high brightness, wide viewing angle.

* General Information

Items	Specification	Unit	Note
Active Screen Size	28.56 inches diagonal	inch	
Display Area	698.4 (H) x 196.425(V)	mm	
Outline Dimension	729 (H) *226.6(V)*27.1(D)	mm	D:MAX
Driver Element	a-Si TFT Active Matrix		
Display Colors	16.7M (6-bit + Dithering)	colors	
Number of Pixels	1920 horiz. by 540 vert	pixel	
Pixel Arrangement	RGB Vertical strip		
Display Mode	Transmissive mode, Normally black		
Surface Treatment	Anti-Glare (Haze 25%), 3H		
Interface	51 pins LVDS (2 ch, 8-bit)		
Center Luminance of White	700	nits	MIN:630
Relative degree	1000:1		
Weight	TBD	kg	

2. Absolute Maximum Ratings

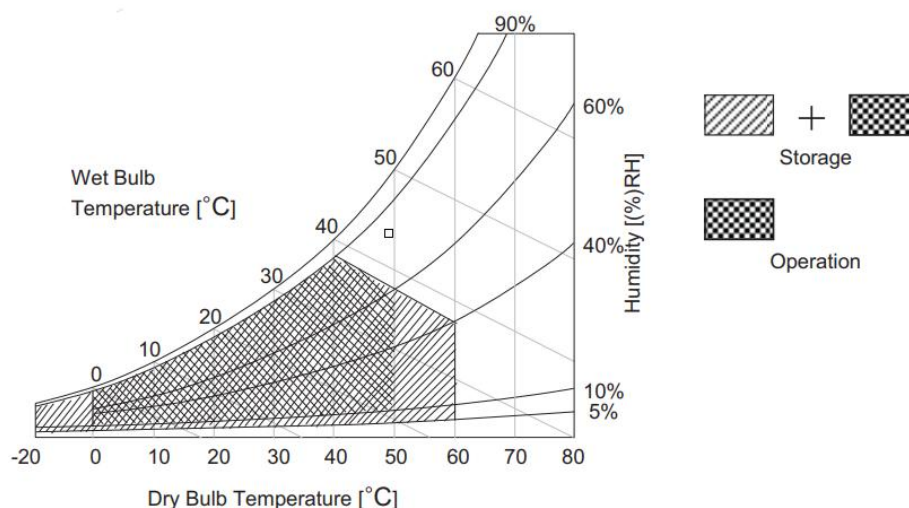
The followings are maximum values which, if exceeded, may cause faulty operation or damage to the unit.

Item	Symbol	Min	Max	Unit	Note
Logic/LCD Drive Voltage	VDD	-0.3	14	[Volt]	1
T-Con Option Selection Voltage	Vin	-0.3	4	[Volt]	1
Operating Temperature	TOP	0	+50	[°C]	2
Operating Humidity	HOP	10	90	[%RH]	2
Storage Temperature	TST	-20	60	[°C]	2
Storage Humidity	HST	10	90	[%RH]	2
Panel Surface Temperature	PST		68	[°C]	3

Note 1: Ambient temperature condition ($T_a = 25 \pm 1^\circ\text{C}$)

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 50°C Dry condition.



3. Electrical Specification

3-1 TFT LCD Module

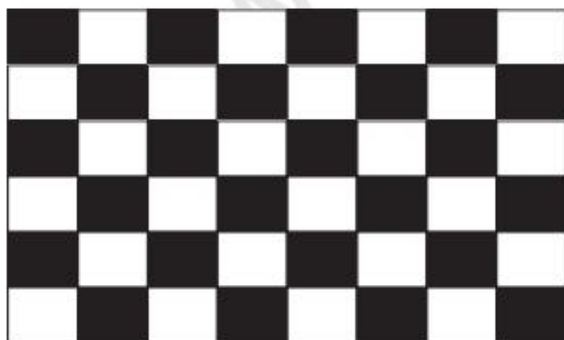
3-1-1 Power Specification

Item		Symbol	Vaule			Unit	Note
			Min	TYP	Max		
Power Input Voltage		VDD	10.8	12.0	13.2	VDC	
Power Input Current		ILCD	-	255	335	mA	1
T-CON Option U-Selection Voltage	Input High Voltage	VIH	2.7	-	3.3	VDC	
	Input Low Voltage	VIL	0	-	0.6		
Power Consumption		PLCD	-	3.04	4.02	Walt	1
Rush current			-	-	5.0	A	2

NOTE:

1. The specified current and power consumption are under the VLCD=12.0V, Ta=25±℃, 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 pattern.
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

White : 255 Gray
Black : 0 Gray



Mosaic Pattern(8 x 6)



Max Current Pattern (White)

3-2. Interface Connections

30-pin connector is used for the module electronics.

3-2-1. LCD Module

- LCD Connector(CN1): 05030HR-H51H (manufactured by YEONHO) or compatible

PIN NO	Symbol	Description	PIN	Symbol	Description
1	NC	No Connection	27	NC	No Connection
2	NC	No Connection	28	CH2[0]-	Second pixel negative LVDS differential data input. Pair0
3	NC	No Connection	29	CH2[0]+	Second pixel positive LVDS differential data input. Pair0
4	NC	No Connection	30	CH2[1]-	Second pixel negative LVDS differential data input. Pair1
5	NC	No Connection	31	CH2[1]+	Second pixel positive LVDS differential data input. Pair1
6	NC	No Connection	32	CH2[2]-	Second pixel negative LVDS differential data input. Pair2
7	SELLVDS	High: JEIDA Low or Open: VESA	33	CH2[2]+	Second pixel positive LVDS differential data input. Pair2
8	NC	No Connection	34	GND	Ground
9	NC	No Connection	35	CH2CLK-	Second pixel negative LVDS clock
10	NC	No Connection	36	CH2CLK+	Second pixel positive LVDS clock
11	GND	Ground	37	GND	Ground
12	CH1[0]-	First pixel negative LVDS differential data input. Pair0	38	CH2[3]-	Second pixel negative LVDS differential data input. Pair3
13	CH1[0]+	First pixel positive LVDS differential data input. Pair0	39	CH2[3]+	Second pixel positive LVDS differential data input. Pair3
14	CH1[1]-	First pixel negative LVDS differential data input. Pair1	40	NC	No Connection
15	CH1[1]+	First pixel positive LVDS differential data input. Pair1	41	NC	No Connection
16	CH1[2]-	First pixel negative LVDS differential data input. Pair2	42	NC or GND	No Connection or Ground
17	CH1[2]+	First pixel positive LVDS differential data input. Pair2	43	NC or GND	No Connection or Ground
18	GND	Ground	44	GND	Ground
19	CH1CLK-	First pixel negative LVDS clock	45	GND	Ground
20	CH1CLK+	First pixel positive LVDS clock	46	GND	Ground
21	GND	Ground	47	NC	No Connection
22	CH1[3]-	First pixel negative LVDS differential data input. Pair3	48	VCC	Input Voltage +12V
23	CH1[3]+	First pixel positive LVDS differential data input. Pair3	49	VCC	Input Voltage +12V
24	NC	No Connection	50	VCC	Input Voltage +12V
25	NC	No Connection	51	VCC	Input Voltage +12V
26	GND	Ground			

4. Backlight Electrical Specification

4-1 Electrical Specification

Parameter			Symbol	Values			Unit	Notes
				Min	Typ	Max		
Power Supply Input Voltage			VBL	11.5	12	13	Vdc	
Power Supply Input Current			IBL		TBD		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	
	External PWM Duty ratio		D_PWM	5		100	%	
	External PWM Frequency		F_PWM	1k		10k	Hz	
	Brightness			30		100	%	Brightness
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	PWM	External PWM
14	NC	Not connect

CN2 : PH1.25-2PIN (1.25mm*2) Not connect

5. Mechanical Characteristics

UNIT:mm

