

INDUSTRIAL STRENGTH... Start Your Application From YOURITECH

Integration support

Obsolescence Management

PCAP

Embedded Systems

Human Machine Interface

Touch Solutions

Software

Quality Management

Open Frame Monitors

LCD Controller

Research & Development

Firmware

EMC tests

on-site service

Optical Bonding

In-house Manufacturing

Cover glass

System solutions

OEM Solutions

Custom Display

Production Custom designs Installation

Mechanical design



SPECIFICATION FOR APPROVAL

☒ Preliminary Specification

☐ Final Specification

MODEL NAME : ET270UH01-R

APPROVED BY

REVIEWED BY

PREPARED BY

Lion / Engineer



1. General Description

This specification applies to the 27.0 inch Color TFT-LCD Module ET270UH01-R. This LCD module has a TFT active matrix type liquid crystal panel 3840x2160 pixels, and diagonal size of 27.0 inch.

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

* General Information

Items	Specification	Unit	Note
Active Screen Size	27.0 inches diagonal	inch	
Display Area	596.736 (H) x 335.664 (V)	mm	
Outline Dimension	618 (H) *360(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	3840 horiz. by 2160 vert	pixel	
Pixel Arrangement	RGB Vertical strip		
Display Mode	Transmissive mode, Normally black		
Surface Treatment	Anti-Glare (Haze 25%), 3H		
Interface	eDP (4 Lanes) , HBR2 (5.4G/lane)		
Center Luminance of White	1500	nits	MIN:1350
Weight	TBD	kg	



2. Absolute Maximum Ratings

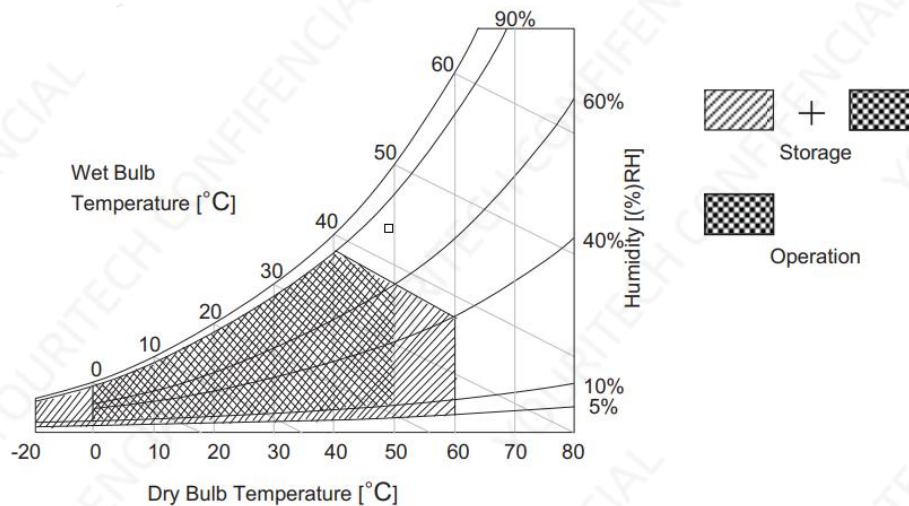
The followings are maximum values which, if exceeded, may cause faulty operation or damage to the unit.

Item	Symbol	Min	Max	Unit	Note
Logic/LCD Drive Voltage	VDD	GND-0.3	12	[Volt]	1
Input Voltage of Signal	Vin	VSS-0.3	VDD+0.3	[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		65	[°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 50 °C Dry condition.



3. Electrical Specification

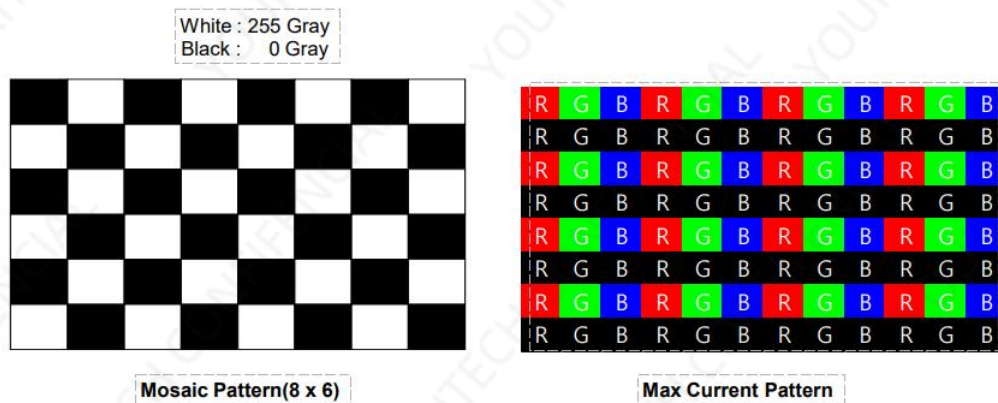
3-1 TFT LCD Module

3-1-1 Power Specification

Item		Symbol	Vaule			Unit	Note
			Min	TYP	Max		
Power Input Voltage		VDD	9	10.0	11	VDC	
Power Input Current		ILCD	-	460	950	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	-	4.6	9.5	Walt	1
Rush current			-	2.0	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=10.0V, Frame rate fV=60Hz . Test Pattern of power supply current

- Duration of rush current is about 2 ms and rising time of VDD is $520 \mu s \pm 20 \%$



3-2. Interface Connections

30-pin connector is used for the module electronics.

3-2-1. LCD Module

- LCD Connector:STM MSAK24025P30.

PIN NO	Symbol	Description	Remark
1	VDD	Power Supply (10.0V)	
2	VDD	Power Supply (10.0V)	
3	VDD	Power Supply (10.0V)	
4	VDD	Power Supply (10.0V)	
5	VDD	Power Supply (10.0V)	
6	NC	No Connection	
7	GND	Ground	
8	NC	No Connection	
9	NC	No Connection	
10	GND	Ground	
11	HPD	Hot Plug Detection Signal	
12	GND	Ground	
13	DAUXN	Negative Signal for Auxiliary Chanel	
14	DAUXP	Positive Signal for Auxiliary Chanel	
15	GND	Ground	
16	DRX0P	Positive Signal For eDP Lane0	
17	DRX0N	Negative Signal For eDP Lane0	
18	GND	Ground	
19	DRX1P	Positive Signal For eDP Lane1	
20	DRX1N	Negative Signal For eDP Lane1	
21	GND	Ground	
22	DRX2P	Positive Signal For eDP Lane2	
23	DRX2N	Negative Signal For eDP Lane2	
24	GND	Ground	
25	DRX3P	Positive Signal For eDP Lane3	
26	DRX3N	Negative Signal For eDP Lane3	
27	GND	Ground	
28	GND	Ground	
29	NC	No Connection	
30	GND	Ground	BIST



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		2.4		A	
Power Consumption (Total)			PBL		57.6		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		57.7		Vdc	
LED Light Bar Input Current			ILED		900		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

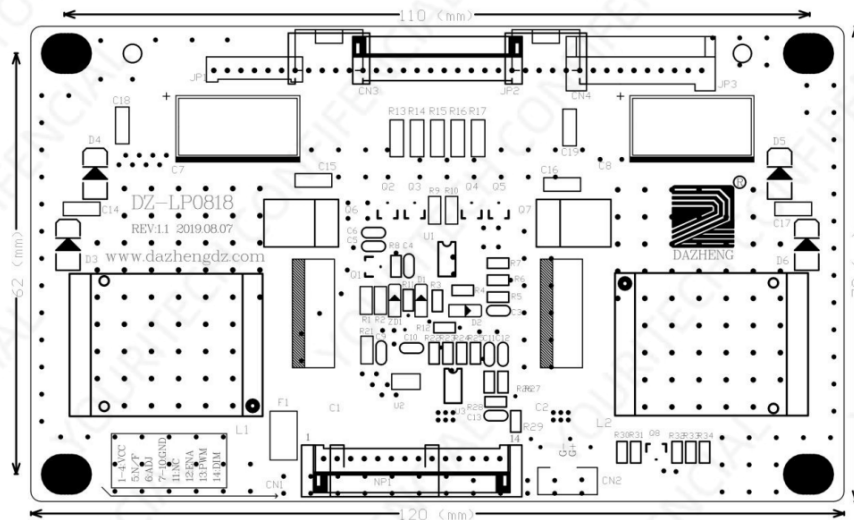
CN2	Symbol	Description
1	G+	Light sensor anode
2	G-	Light sensor cathode

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

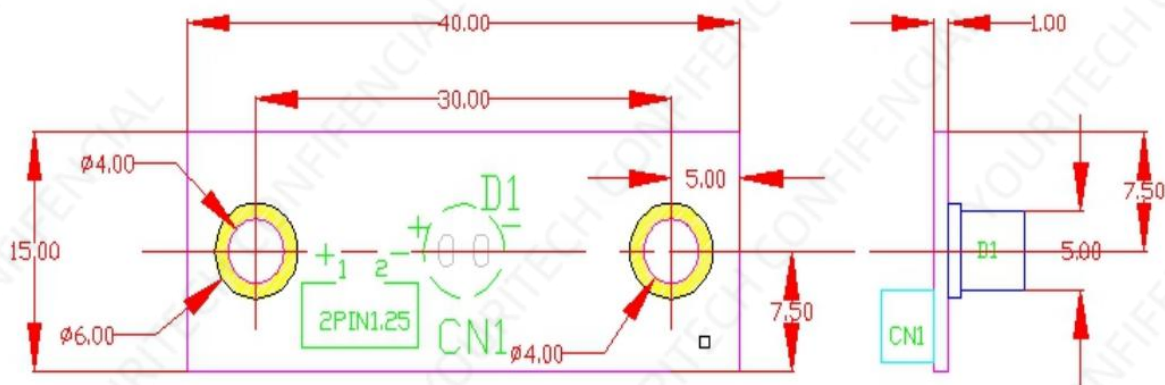
CN3/CN4	Symbol	Description
1	LED+	LED Light Bar Current outputr anode
2	LED+	LED Light Bar Current outputr anode
3	LED-	LED Light Bar Current output cathode
4	LED-	LED Light Bar Current output cathode



LED Driver Board dimensional drawing



Light Sensor Board dimensional drawing



5. Mechanical Characteristics

UNIT:mm

