Next Vision Display
Brighten The Future

NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: 484801-A

Version	1
Engineer	
Date	20/01/23

Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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Application

This specification is applied to the 4 inch 480x480 resolution supported TFT-LCD module and can display 16.7M colors with dithering. The module is designed for electronic products which require flat panel display of digital signal interface.

Features

- 480×480 resolution
- 24 bit parallel RGB interface
- Projected Capacitive Touch
  - I^2C Interface
  - Multi Touch (Five points)
  - 480x480 resolution

General Specifications

Item	Specifications	Unit
Screen Size	4 (Diagonal)	inch
Display Format	480RGB(H)×480(V)	dot
Active Area	71.86(H)×70.18(V)	mm
Pixel Pitch	0.149(H)×0.146(V)	mm
Pixel Configuration	RGB Vertical Stripe	-
Display Mode	IPS Type / Transmissive / Normally Black	-
Surface Treatment	Clear(6H)	-
Viewing Direction	Full view angle	-
LCD Driver IC	ST7701-G5	-
PCAP Driver IC	GT911	-
Outline Dimension	86.0(W)×86.0(H)×3.9(D)	mm

Absolute Maximum Ratings

Absolute Ratings of Environment

Item	Symbol	Value		Unit
		Min.	Max.	
Storage Temperature	T_{ST}	-30	+80	°C
Operating Ambient Temperature	T_{OP}	-20	+70	°C

Electrical Absolute Ratings

TFT-LCD Module

(Ta=25±2°C, GND=V_{SS}=0V)

Item	Symbol	Value		Unit
		Min.	Max.	
Power Supply Voltage	VDD	-0.3	3.6	V
Supply Voltage(Logic)	VDDI	-0.3	3.6	V

Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Forward current	If	-	50	mA	(1)
Reverse voltage	V_R	-	25	V	(1)

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

Electrical Characteristics

TFT-LCD Module

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	VDD	2.5	3.3	3.6	V	-
Supply Voltage(Logic)	VDDI	1.65	1.8	3.3	V	-
Power Supply Current	I_{VDD}+I_{VDDI}	-	40	56	mA	VDD=3.3V VDDI=3.3V
Input High Input Voltage	VIH	0.7*VDDI	-	VDDI	V	-
Input Low Input Voltage	V_{IL}	GND	-	0.3*VDDI	V	-
VSYNC Frequency	F_V	-	60	-	Hz	-

Backlight Unit

(Ta=25±2°C)

Item	Symbol	Value			Unit	Remark
		Min.	Typ.	Max.		
Forward Current	IF	-	40	-	mA	
Forward Voltage	VF	(13.8)	(15)	(16.2)	V	(2)
LED Life Time(25℃)	-	-	30000	-	Hrs.	(1)

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

Note (2)：The BLU is driven by constant current, the voltage value is for reference only.

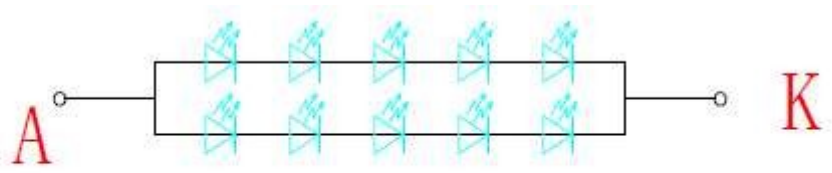

Figure: LED connection of backlight(Constant Current)

Projected Capacitive Touch

(Ta=25±2°C)

Item	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	V_{TP}	3.0	3.3	3.6	V	-
Power Supply Current	I_{TP}	-	15	20	mA	(1)
Input High Threshold Voltage	V_{IH}	$0.75V_{TP}$	-	V_{TP}+0.3	V	-
Input Low Threshold Voltage	V_{IL}	-0.3	-	$0.25V_{TP}$	V	-
Output High Threshold Voltage	V_{OH}	$0.85V_{TP}$	-	-	V	-
Output Low Threshold Voltage	V_{OL}	-	-	$0.15V_{TP}$	V	-
Power Consumption	P_L	-	49.5	69.3	mW	@3.3V
Report Rate	R_R	-	60	-	Hz	-
Interface		I^2C				-
Function		Multi Touch				-
IC Type		GT911				-
I2C Slave Address		0X28				-
Origin of Coordinate		Top left corner				

Note (1) This test condition is touched with 5 points.

Input / Output Terminals Pin Assignment

TFT-LCD Module

No.	Symbol	Description
1	GND	System Ground
2	VLED+	Backlight LED Anode.
3	VLED-	Backlight LED Cathode
4	VCC	Power supply 3.3V
5	IOVCC	Power supply 1.8V
6	SDO	Serial output signal
7	SDI	Serial data input
8	GND	System Ground
9	SCL	Serial Clock
10	CS	Chip select pin
11	NC	No connect
12	Reset	Reset signal pin
13~20	R0~R7	Data bus
21~28	G0~G7	Data bus
29~36	B0~B7	Data bus
37	DE	Data enable input. Active high to enable the input data bus under “DE Mode.”
38	GND	System Ground
39	PCLK	Dot clock signal input. Latching input data at its rising edge.
40	GND	System Ground
41	HSYNC	Horizontal Sync signal
42	VSYNC	Vertical Sync signal
43	IC-ID	No connect
44	LED-PWM	The PWM frequency output for LCD driver control.
45	GND	System Ground

Input / Output Terminals Pin Assignment

Pin No.	Symbol	Description
1	VSS	System ground.
2	/INT	Interrupt signal, active low, asserted to request Host start a new transcation.
3	/RST	External reset signal, active low.
4	VSS	System ground.
5	SCL	I^2C clock signal.
6	SDA	I^2C data signal.
7	VSS	System ground.
8	VSS	System ground.
9	V_{TP}	+3.3V power supply.
10	V_{TP}	+3.3V power supply.

Outline Drawing