



**RAYSTAR**

**曜凌光電股份有限公司**

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**RFF500B-AIW-DNB**

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## **SPECIFICATION**

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## General Specifications

- Size: 5.0 inch
- Dot Matrix: 800× 3(RGB) × 480 dots
- Module dimension: 147.0(W) ×104.0(H) ×4.8mm
- Active area: 108(W) ×64.8 (H) mm
- Dot pitch: 0.135(W) ×0.135(H) mm
- LCD type: TFT, Normally White, Transmissive
- TFT Driver IC: ILI6122 + ILI5960
- View Direction: 12 o'clock
- Gray Scale Inversion Direction: 6 o'clock
- TFT Interface: 24-bit RGB
- Aspect Ratio: 16:9
- Backlight Type: LED ,Normally White
- PCAP IC: ILI2511
- PCAP Interface: USB (I2C available)
- PCAP FW Version: V 6. 0. 0. 0. 5.28.0.1
- Touch Panel: PCAP
- Surface: Glare

\*Color tone slight changed by temperature and driving voltage.

## Interface

### 1. LCM PIN Definition

FPC Connector is used for the module electronics interface.

Pin	Symbol	Function
1	VLED-	Power for LED backlight (Cathode)
2	VLED+	Power for LED backlight (Anode)
3	GND	Power Ground
4	VDD	Power voltage
5	R0	Red data (LSB)
6	R1	Red data
7	R2	Red data
8	R3	Red data
9	R4	Red data
10	R5	Red data
11	R6	Red data
12	R7	Red data(MSB)
13	G0	Green data(LSB)
14	G1	Green data
15	G2	Green data
16	G3	Green data
17	G4	Green data
18	G5	Green data
19	G6	Green data
20	G7	Green data(MSB)
21	B0	Blue data(LSB)
22	B1	Blue data
23	B2	Blue data
24	B3	Blue data
25	B4	Blue data
26	B5	Blue data
27	B6	Blue data
28	B7	Blue data(MSB)
29	GND	Power Ground

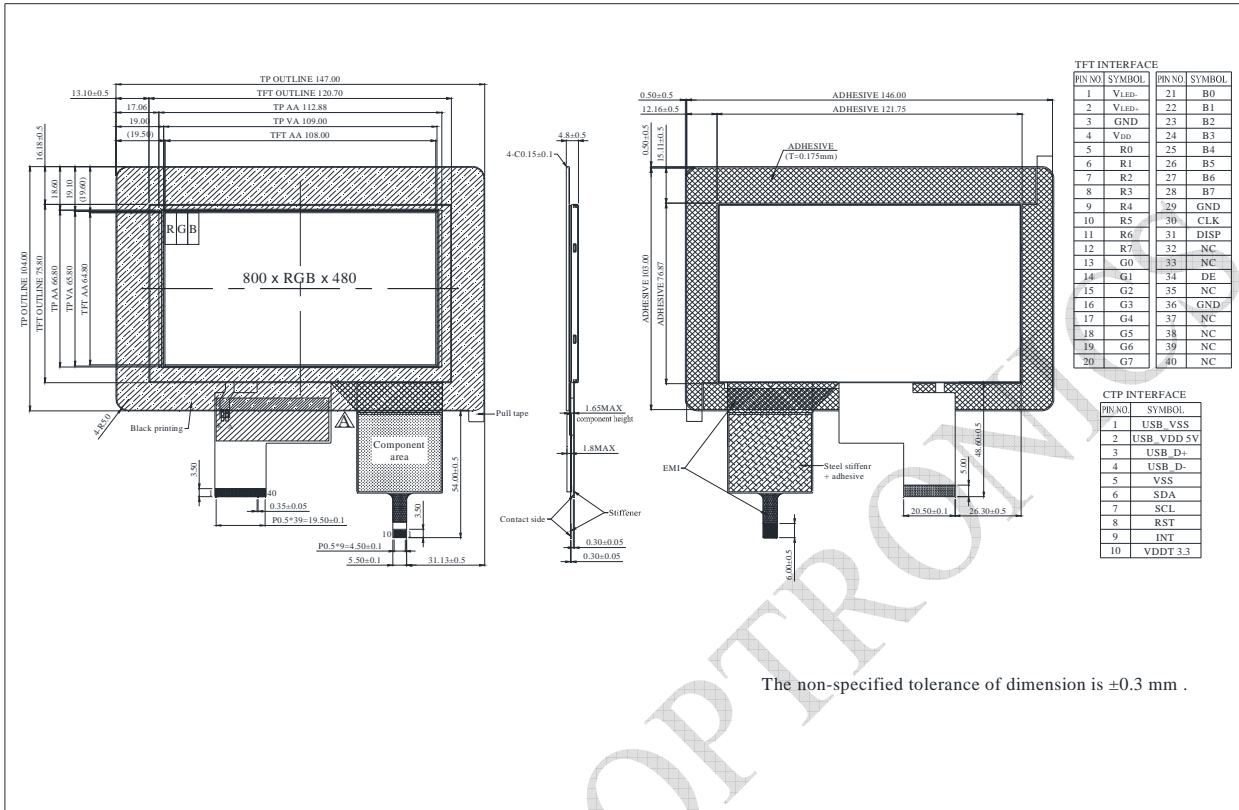
30	CLK	Sample clock
31	DISP	Display on/off
32	NC/HS	No connection /Horizontal sync input
33	NC/VS	No connection /Vertical sync input
34	DE	Data input enable
35	NC	No connection
36	GND	Power Ground
37	NC	No connection
38	NC	No connection
39	NC	No connection
40	NC	No connection

## 2. PCAP PIN Definition

Pin	Symbol	Function
1	USB_VSS	System ground
2	USB_VDD 5V	Power supply
3	USB_D+	Data +
4	USB_D-	Data -
5	VSS	System ground
6	SDA	I2C data input and output
7	SCL	I2C clock input
8	RST	External Reset, Low is active
9	INT	External interrupt to the host
10	VDDT 3.3	Power supply

Note: Interface can support both USB and I2C,USB is main function

# Contour Drawing



**TFT INTERFACE**

PIN NO	SYMBOL	PIN NO	SYMBOL
1	VLED	21	B0
2	VLED	22	B1
3	GND	23	B2
4	VDD	24	B3
5	R0	25	B4
6	R1	26	B5
7	R2	27	B6
8	R3	28	B7
9	R4	29	GND
10	R5	30	CLK
11	R6	31	DISP
12	R7	32	NC
13	G0	33	NC
14	G1	34	DE
15	G2	35	NC
16	G3	36	GND
17	G4	37	NC
18	G5	38	NC
19	G6	39	NC
20	G7	40	NC

**CTP INTERFACE**

PIN NO	SYMBOL
1	USB_VSS
2	USB_VDD_5V
3	USB_D+
4	USB_D-
5	VSS
6	SDA
7	SCL
8	RST
9	INT
10	VDDT_3.3

The non-specified tolerance of dimension is ±0.3 mm .

RAYSTAR OPTRO

## Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	°C
Storage Temperature	TST	-30	—	+80	°C

## Electrical Characteristics

### 1. Typical Operation Conditions

Item	Symbol	Values			Unit
		Min	Typ	Max	
Power voltage	VDD	3.0	3.3	3.6	V
Current for Driver(Black)	IDD	-	110	170	mA
Input logic high voltage	VIH	0.7 VDD	-	VDD	V
Input logic low voltage	VIL	0	-	0.3 VDD	
Supply Voltage For Touch Logic	VDDT	4.4	5.0	5.5	V

### 2. Backlight Driving Conditions

Item	Symbol	Values			Unit
		Min	Typ	Max	
Voltage for LED backlight	VL	18	19.2	20	V
Current for LED backlight	IL	--	60	--	mA
LED life time	-	--	50,000	-	Hr