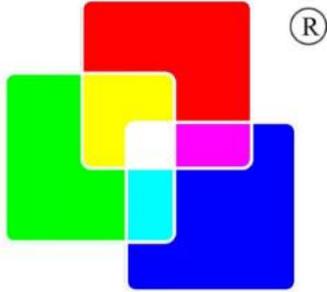


PREPARED BY : 制作人 :LYF 日期: 2025-11-18	 <p>EASYQUICK TECHNOLOGY</p> <p>SPECIFICATION 深圳市易快来科技股份有限公司</p>	SPEC No: (规格型号:) EQT195TYZ374B
R&D APPROVED BY: 审核: 日期:		FILE No : (档案编号 :) EQ2025111801
QC APPROVED BY: 确认: 日期:		ISSUE (日期) 2025-11-18 PAGE (页码) 10
APPLICABLE DIVISION (适用范围) <input checked="" type="checkbox"/> OLED DIVISION <input checked="" type="checkbox"/> 显示模组 <input checked="" type="checkbox"/> PCB 输入模块		

For **410*502** OLED Module Model No

EQT195TYZ312B - PCBA monitor

SPEC

Customer side signature (客户方签名)

部门 \ 签名	Acknowl-ed-g-e (承认人)	Date (日期)	Remarks (备注)
Structure (结构)			
Electronics (电子)			
Item (项目)			
Quality (品质)			

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(易快来科技)

PEC No.	MODEL No.	Revised	PAGE
		Ver01	1



应用

本规格书是为了介绍 **EQT195TYZ312B+PCBA Input Module**

有源矩阵 16.7M 彩色 OLED 及 PCBA 输入模块的规格。

PCBA 输入模块规格为 **XBT009-V01**,输入板与显示屏间由转接线连接组装

本规范未尽事宜如有问题, 双方必须认真协商解决。

驱动 IC 的基本规格参照《IC 规格书》和相关《手册》。

Specification Translation

This Specification is intended to specify the parameters of the **EQT195TYZ312B + PCBA Input Module** (an active-matrix 16.7 million-color OLED) and the PCBA Input Module.

The PCBA Input Module has a specification model of **XBT009-V01**; the input board and the display screen are connected and assembled via an adapter cable.

For any issues related to matters not covered in this Specification, both parties shall negotiate in good faith to resolve them.

For the basic parameters of the Driver IC, refer to the *IC Specification* and relevant *Manuals*.

1. 核心物料表

No.	名称	型号	备注
1	OLED 显示模组	EQT195TYZ312G	1.952 inch
2	PCBA 输入模块	XBT009-V01	

2. 参数规格

2.1 OLED panel 基本参数:

No.	Item	Contents	Unit
1	Screen size (屏幕尺寸)	1.952 inch	/
2	Display mode (显示模式)	Normally black	/
3	View Angle (视角)	IPS	/
4	Display format (分辨率)	410×RGB×502	/
5	Outline Dimensions (外形尺寸)	58.94(W)×86.14(H)×2.05(D)	mm
6	Active area (显示范围)	31.37(H)×38.40(V)	mm
7	Pixel size(像素)	0.0765 (H) x 0.0765(V)	mm
8	Color Depth (颜色深度)	16.7M	/
9	Weight (重量)	TBD	G

PEC No.	MODEL No.	Revised	PAGE
		Ver01	2



EASYQUICK TECHNOLOGY

2.2 PCBA driver 基本参数:

No.	Item	Contents	Unit
1	board size (板尺寸)	93.70(W) x 72.51(H) x 46.02(D)mm	mm
2	Display Command Set (显示支持)	MIPI-2LANE、SPI、MCU8080	/
3	Signal lane (信号线)	1 Clock Lane, and 1~2 Configurable Data Lanes per port	/
4	Configurable port (端口)	1/2 configurable port.	/
6	Input Voltage (输入电压)	+5V(Micro USB)	V
7	Green Standards(环保要求)	RoHS Compliant:	/

3. ABSOLUTE MAXIMUM RATINGS(绝对最高额定值)

Item	Symbol	Min.	Typ.	Max.	Unit	Note
Input Voltage (转换板输入电压)	MicroUSB	+5	-	+5.3	V	
Operation temperature (运行温度)	Top	-20	-	+60	°C	
Storage temperature (储存温度)	Tst	-30	-	+70	°C	

4. Optical Characteristics (光学特征)

Item 项目	Symbol (样品)	Condition (条件)	Min. (最小值)	Typ.(标准值)	Max. (最大值)	Unit (单位)	Remark (备注)
Response time (响应时间)	Rise (上升) +Fall (下降) Tr +Tf	$\theta=0^\circ$	-	-	3	ms	Note 1 FIG.1
Luminance (亮度)	Br	$\theta=0^\circ$	300	-	-	Cd/m ²	Note 3 FIG.2
Luminance uniformity (亮度均匀性)	YU	$\theta=0^\circ$	90	-	-	%	Note 4 FIG.2
Contrast ratio (对比度)	CR	$\theta=0^\circ$	-	100000	-	-	Note 2 FIG.2

PEC No.	MODEL No.	Revised	PAGE
		Ver01	3



Note1. Definition of response time

The response time is defined as the OLED optical switching time interval between “White” state and “Black” state. Rise time (T_{ON}) is the time between photo detector output intensity changed from 90% to 10%.

And fall time (T_{OFF}) is the time between photo detector output intensity changed from 10% to 90%.

For additional information see FIG1.

Note2. Definition of contrast ratio

Contrast ratio(Cr) is defined mathematically by the following formula.

For more information see FIG.2.

$$\text{Contrast ratio} = \frac{\text{Luminance measured when OLED on the "White" state}}{\text{Luminance measured when OLED on the "Black" state}}$$

Measured at the center area of the OLED

Note3. Definition of surface luminance

Surface luminance is the luminance with all pixels displaying white.

For more information see FIG.2.

L_v = Average Surface Luminance with all white pixels(P1,P2,P3,,Pn)

Note4. Definition of luminance uniformity

The luminance uniformity in surface luminance is determined by measuring luminance at each test position 1 through n, and then dividing the maximum luminance of n points luminance by minimum luminance of n points luminance. For more information see FIG.2.

$$Y_u = \frac{\text{Minimum surface luminance with all white pixels (P1,P2,P3,.....,Pn)}}{\text{Maximum surface luminance with all white pixels (P1,P2,P3,.....,Pn)}}$$

Note5. Definition of color chromaticity (CIE1931)

CIE (x,y) chromaticity, The x,y value is determined by screen active area center position P5. For more information see FIG.2.

Note6. Definition of viewing angle

Viewing angle is the angle at which the contrast ratio is greater than 10. angles are determined for the horizontal or x axis and the vertical or y axis with respect to the z axis which is normal to the OLED surface.

For more information see FIG.3.

For viewing angle and response time testing, the testing data is base on Autronic-Melchers’s ConoScope or DMS series Instruments or compatible. For contrast ratio, Surface Luminance, Luminance uniformity and CIE, the testing data is base on TOPCON’s BM-5or BM-7 photo detector or compatible.

FIG.1. The definition of response Time

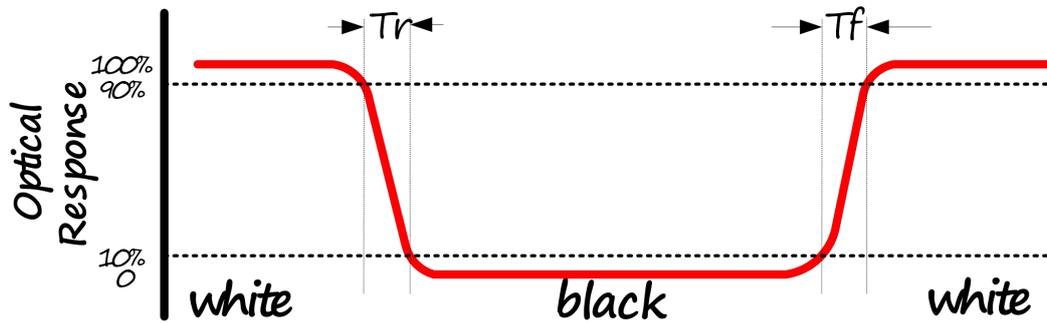


FIG.2. Measuring method for contrast ratio, surface luminance, luminance uniformity, CIE (x,y) chromaticity

H,V : Active area

Light spot size $\varnothing = 1.5\text{mm}$ (BM-7)50cm distance or compatible distance from the LCM surface to detector lens.

Test spot position : see Figure a.

measurement instrument : TOPCON's luminance meter BM-7 or compatible ,see Figure b.

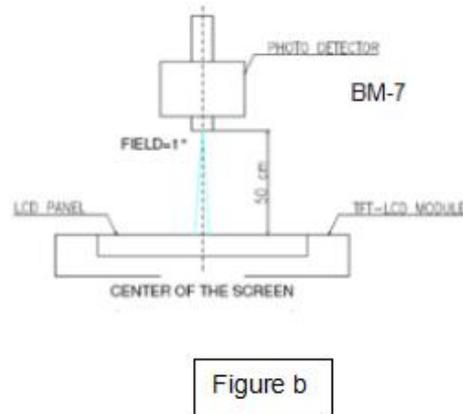
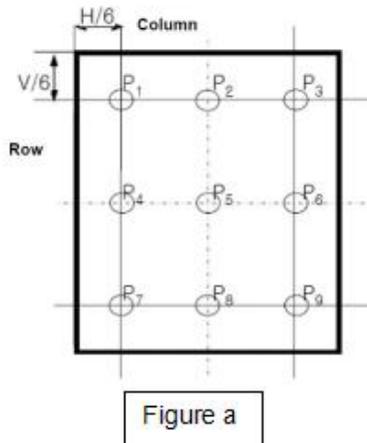
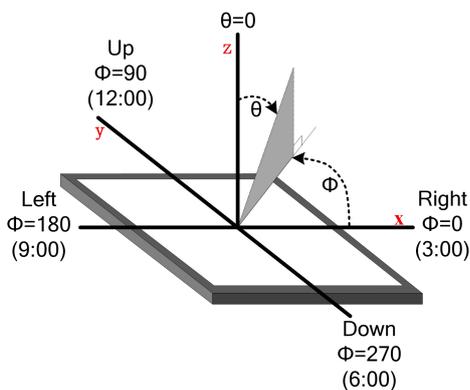
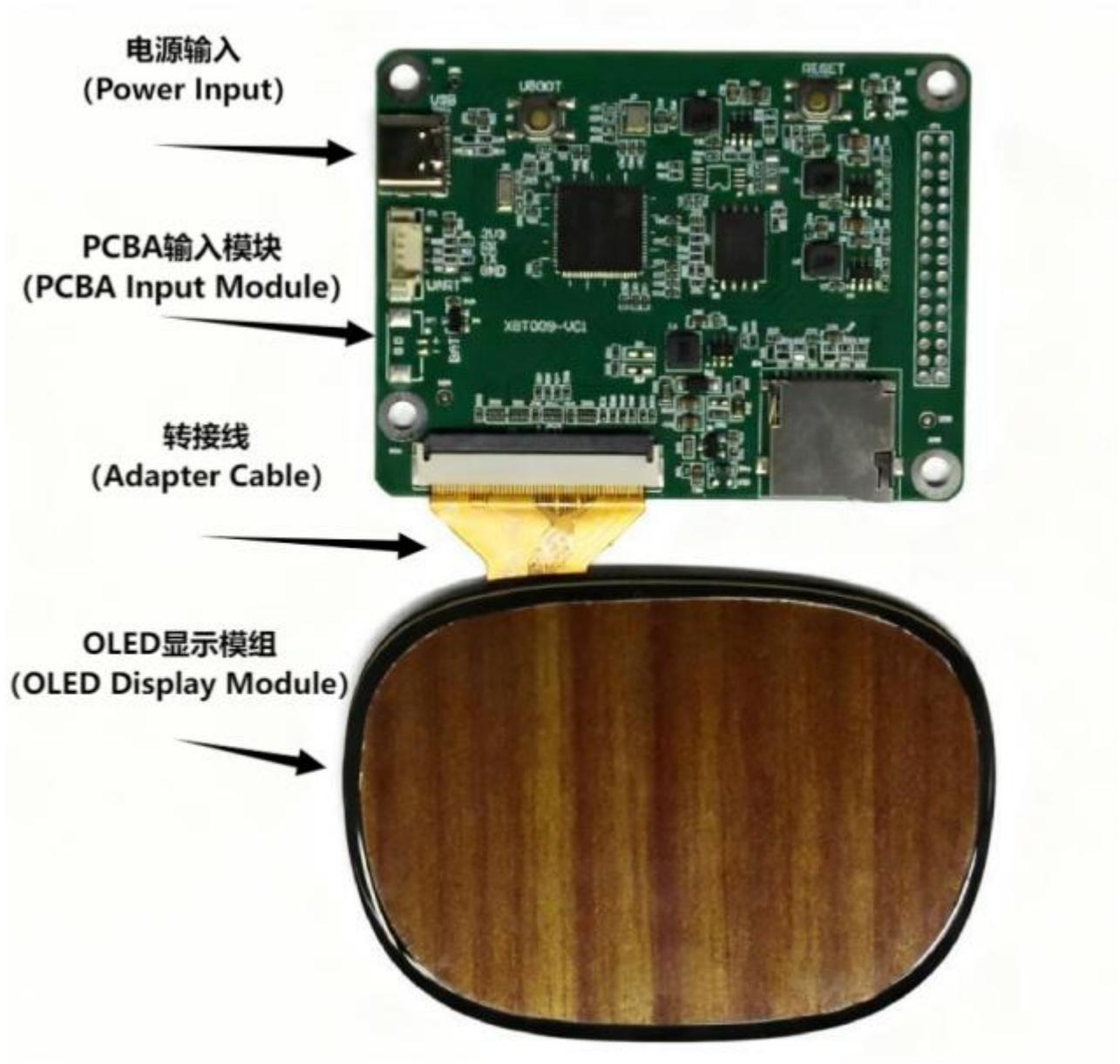


FIG.3. The definition of viewing angle



5.2 示意图:



PEC No.	MODEL No.	Revised	PAGE
		Ver01	7



6. 安装及显示设置(Installation and Display Settings)

正确连接 PCBA 板、转接线、显示屏，接通电源后即可自动显示预设画面，无需其他操作。

After correctly connecting the PCBA board, adapter cable, and display screen, the device will automatically display the preset image once powered on, with no additional operations required.



PEC No.	MODEL No.	Revised	PAGE
		Ver01	8



安装注意事项

1. 建议使用指定的电压范围驱动 OLED 面板，尽量调整工作电压以达到最佳对比度，不同温度下 OLED 面板的颜色和对比度会有所不同；
2. 在较低的工作温度范围内，有机发光层响应时间会大大延迟。但这并不意味着有机发光层会失效，只要回到规定的温度范围，有机发光层就会恢复正常状态；
3. 如果显示模块在运行过程中受到硬物的压力，显示模块就会出现异常；
4. 在特定条件下的环境中使用配套模组可能会导致损坏和寿命缩短，电源输入请维持在 5.0V~5.3V 之间，否则可能会对器件造成损伤；
5. 运行时 PCBA 板元器件裸露部分注意远离金属器件，避免短路或其它问题；

Installation Precautions

1. It is recommended to drive the OLED panel within the designated voltage range. Adjust the operating voltage as appropriate to achieve the optimal contrast ratio. Note that the color and contrast ratio of the OLED panel will vary under different temperatures.
2. Within the lower operating temperature range, the response time of the organic light-emitting layer will be significantly delayed. However, this does not indicate failure of the organic light-emitting layer; it will return to normal operation once the panel is brought back to the specified temperature range.
3. If the display module is subjected to pressure from hard objects during operation, it will exhibit abnormalities.
4. Using the supporting modules under specific environmental conditions may lead to damage and shortened service life. Maintain the power input within the range of 5.0V to 5.3V; otherwise, damage to the device may occur.
5. During operation, keep the exposed parts of components on the PCBA board away from metal devices to prevent short circuits or other issues.

Key Technical Term Explanations

1. **OLED 面板** (OLED Panel) : The full name is "Organic Light-Emitting Diode Panel", a commonly used term in the display industry to refer to the core display component based on organic light-emitting diode technology.
2. **PCBA 板** (Printed Circuit Board Assembly): Referred to as "PCBA" (with the full name in parentheses), which is the standard term in electronics for a printed circuit board with mounted electronic components.
3. **响应时间** A core term in display technology, referring to the delay time when a pixel switches between bright and dark states (e.g., the time interval for an OLED pixel to transition from a "white" state to a "black" state).
4. **短路** (Short Circuit): Translated as "short circuit" – a common electrical fault where current flows through an unintended low-resistance path, so the instruction to "avoid" it is emphasized for safety.