

PREPARED BY : (制作人 : ) HJW	 <b>EASYQUICK</b> <b>TECHNOLOGY</b> SPECIFICATION 深圳市易快来科技股份有限公司	SPEC No: (规格型号: ) <b>EQT656BKU005G</b>
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QC APPROVED BY: (品质核准)		ISSUE (日期)      2022-03-30  PAGE (页码)      8
APPLICABLE DIVISION (适用范围)  <input checked="" type="checkbox"/> LCD DIVISION <input checked="" type="checkbox"/> 液晶模组		

For **HD+** TFT LCD Module& CTP Model No

# EQT656BKU005G SPEC&IIS

Customer side signature (客户方签名)				
	<b>签名</b> 部门	<b>Acknowled-g-e</b> (承认人)	<b>Date</b> (日期)	<b>Remarks (备注)</b>
	<b>Structure</b> (结构)			
	<b>Electronics</b> (电子)			
	<b>Item</b> (项目)			
	<b>Quality</b> (品质)			

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(易快来科技)

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## 1. Application (应用)

This data sheet is to introduce the specification of **EQT656BKU005G** active matrix **16.7M** color TFT LCD module.

Main color LCD module is controlled by Driver IC **ICNL9916AC-02**

If any problem occurs concerning the items not stated in this specification, it must be solved sincerely by both parties after deliberation.

As to basic specification of driver IC refer to the IC specification and handbook.

本规格书是为了介绍 **EQT656BKU005G** 有源矩阵 **16.7M** 彩色 TFT LCD 模块的规格。

主彩色液晶显示模块由驱动芯片 **ICNL9916AC-02** 控制

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》。

## 2. Construction and Outline (结构与大纲)

Construction: LCD panel, Driver (COG), FPC with electric components, **18** White LED lump, prism sheet, diffuser, light guide and reflector, plastic frame to fix them mechanically.

There shall be no scratches, stains, chips, distortions and other external drawbacks that may affect the display function.

In order to realize thin module structure, double-sided adhesive tapes are used to fix LCD panels. As these tapes do not guarantee to permanently fix the panels, LCD panel may rise from the module when shipped from factory.

So please make sure to design the system to hold the edges of LCD panel by the soft material such as sponge when LCD module is assembled into the cabinet.

结构:液晶面板，驱动或 COG，带电子元件的 FPC，**18** 个白光 LED 块，棱镜片，扩散器，导光器和反射器，塑料框架机械固定。

不应有可能影响显示功能的划痕、污迹、芯片、畸变等外部缺陷。

为了实现薄型模块结构，采用双面胶带固定液晶面板。由于这些胶带不能保证永久有效固定面板，LCD 面板在出厂时可能会从模块内移动。

所以在液晶模块组包装和进柜时，请务必将包装结构设计成用海绵等软材料支撑液晶面板的边缘。

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### 3. Mechanical Specification (参数规格)

Table 1 (表 1)

Item(项目)	Specifications(规格)	Unit (单位)
Screen size (屏幕尺寸)	6.56	inch
Display mode (显示模式)	RGB	-
Active area (显示范围)	67.93(H) x 152.09(V)	mm
CTP area (显示范围)	68.43(H) x 152.59(V)	mm
Display format (分辨率)	720RGB (H) x 1612(V)	-
Pixel configuration (像素)	0.09435*0.09435	-
Outline Dimensions (外形尺寸)	72.48(H)×161.3(V)×2.17(D)	Note 1
View Angle (视角)	FULL	
Base color Notes (基色)	Normally black	-
Weight (重量)	TBD	
Driver IC (驱动 IC)	<b>ICNL9916AC-02</b>	

Note 1: Not include FPCs & Bezel extrude structure.

备注 1: 不包括排线和面板构造

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## 4. Interface signals (接口信号)

Table 2 (表 2)

Pin No.	Symbol	Description	Remark
1	DP2	LCD_MIPI 数据线	
2	DN2	LCD_MIPI 数据线	
3	GND	地	
4	DP1	LCD_MIPI 数据线	
5	DN1	LCD_MIPI 数据线	
6	GND	地	
7	DP3	LCD_MIPI 数据线	
8	DN3	LCD_MIPI 数据线	
9	GND	地	
10	LCD_CLKP	LCD_MIPI 时钟线	
11	LCD_CLKN	LCD_MIPI 时钟线	
12	GND	地	
13	DPO	LCD_MIPI 数据线	
14	DNO	LCD_MIPI 数据线	
15	GND	地	
16	LCD_RST	LCD 复位	
17	LCD_TE	LCD 同步异步	
18	NC	NC	
19	NC	NC	
20	VDD_1V8	VDD1.8V	
21	CTP_RST	CTP_RST	
22	CTP_SPI_CS	TP-SPI 片选	
23	CTP_SPI_MOSI	TP-SPI 数据 MOSI	
24	CTP_SPI_MISO	TP-SPI 数据 MISO	
25	CTP_SPI_CLK	TP-SPI 时钟	
26	CTP_INT	TP-SPI 中断	
27	CABC	CABC	
28	GND	地	
29	LCD_5V5_VN	5.5V 电源	
30	LCD_5V5_VP	-5.5V 电源	
31	NC	NC	
32	LCM_LEDK	背光负极	
33	GND	地	
34	LCM_LEDA	背光正极	

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Notes: 2.FPC Connector Type

备注: 2.排线连接器类型

**Table 3 (表 3)**

Assembled on (组装)	Item (条目)	Description (描述)
Phone PWB (手机主板)	Connector Type (连接类型)	公座
	Pin Amount (数量)	34
	Manufacturer (制造商)	亚奇
	Part Number(零件号)	OK-23GM034-04

## 5. LED back light (背光灯)

At main panel the back light uses 4 pcs edge light type white LED.

在背光的主面板用 18 颗白色 LED 灯

Table 4 (表 4)

Parameter (参数)	Symbol (样品)	Min. (最小值)	Typ. (标准值)	Max. (最大值)	Unit (单位)	Remark (备注)
LED Voltage (LED 电压)	VLED	24.3		26.1	V	[Note 5-2]
LED Current (LED 电流)	ILED	-	40		mA	
Power Consumption (电功率)	WLED	972		1044	mW	[Note 5-2]
Number of LED components (LED 组成部件数量)		18			PCS/ (片)	
Connection Type (Serial/Parallel/Other) (连接类型(串联/并联/其他))		9*2				

### Note:

\*18 pcs of LED

\*Please consider Allowable Forward Current on used temperature

\*18 颗灯

\* 请考虑允许范围内的正向电流的使用温度

### ■ Ambient Temperature vs. Allowable Forward Current

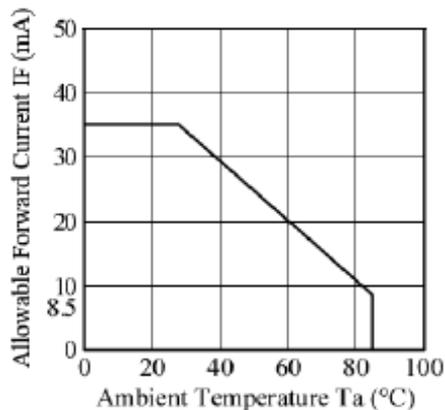


Fig.1 (图 1)

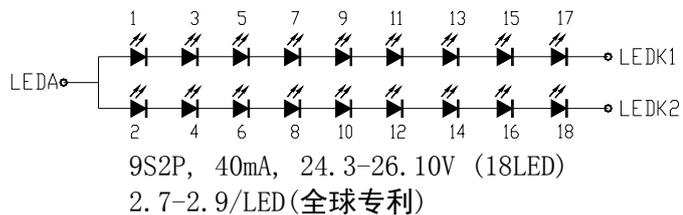


Fig.2\*Schematics drawing of lighting (绘制照明图 图.4)

Note: Logic high and low levels are specified as 30% and 70% of IOVCC for Input signals.

Note: Ta = -30 to 70 °C, IOVCC=1.65V to 3.3V, VCI=2.5V to 3.3V, GND=0V

备注: 指定逻辑高和低电平作为输入信号IOVCC的70%和30%。

备注: Ta = -30 to 70 °C, IOVCC=1.65V to 3.3V, VCI=2.5V to 3.3V, GND=0V

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## 6. Optical Characteristics (光学特征)

**Table 5 (表 5)**

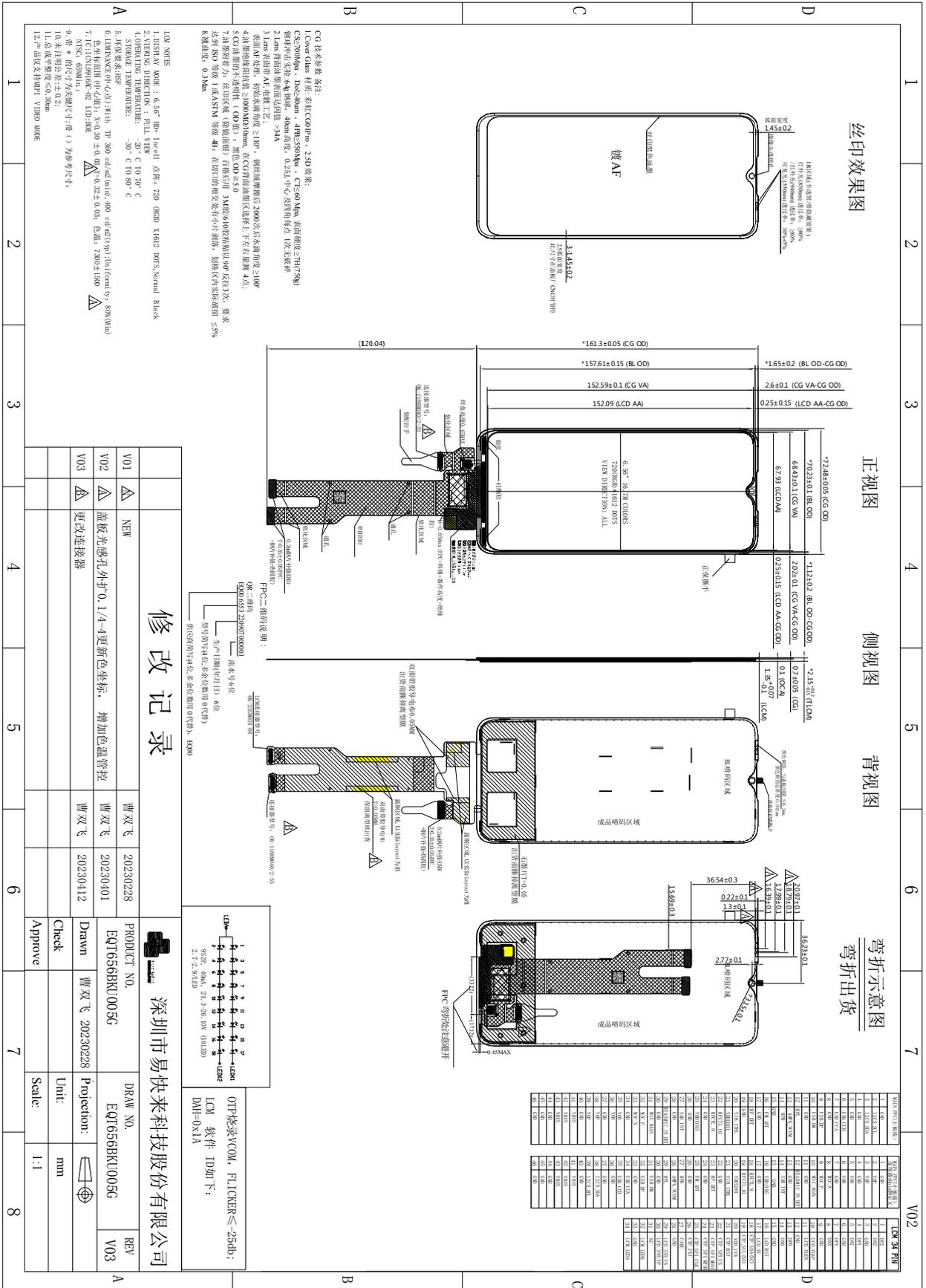
Item 项目		Symbol (样品)	Condition (条件)	Min. (最小值)	Typ. (标准值)	Max. (最大值)	Unit (单位)	Remark (备注)
Response time (响应时间)	Rise (上升) +Fall (下降)	Tr+Tf	$\theta=0^\circ$	-	25	30	ms	
Brightness (亮度)		Br	$\theta=0^\circ$	360	400		Cd/m <sup>2</sup>	
Contrast ratio (对比度)		CR	$\theta=0^\circ$	1000	1500		-	
Viewing angle(with Polarizer) (视角)	Top (顶部)		CR $\geq$ 10	70	80	-	degree	
	Bottom (底部)			70	80	-		
	Left (左边)			70	80	-		
	Right (右边)			70	80	-		
White Chromaticity (白色色度)		X	CIE	0.27	0.30	0.33	-	-
		Y		0.29	0.32	0.35	-	-
NTSC (色彩饱和度)			-	65			%	-

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## 7. LCD Module Outline dimensions (模组外形图)

Fig.1 (图 1)

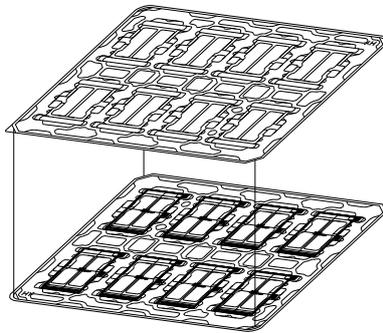
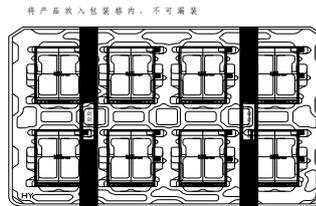
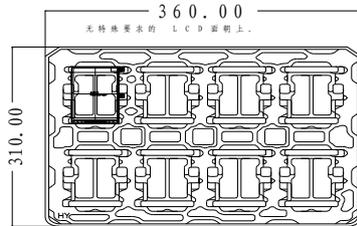


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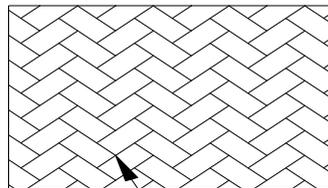
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## 8. Packaging Specification (包装规格)

- 1.1 Package quantity in one Box : 40PCS
- 1.2 Box Size : 380cm\*330cm\*210cm
- 1.3 1 BOX = 2 CARTON
- 1.4 1 CARTON = 9(Full tray) + 1 (dummy / top tray) =10 tray
- 1.5 1 TRAY = 2PCS LCM



10+1层，最上面的一层不放产品，  
包装盘一定要交叉放置。

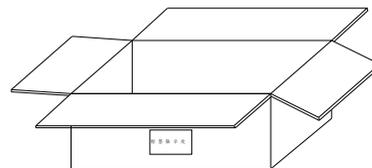
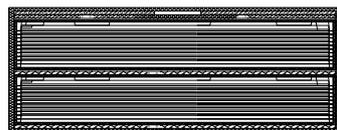


10+1层，  
放入透明 PET 包装袋内  
下面要放一个纸板，



透明胶袋

先在纸箱下放一个纸板，  
BOX 内放两大包产品，  
两包产品中间放一个纸板，  
上面再放一个纸板。



按 B O X 标示处贴上标签