

# ROBOTER

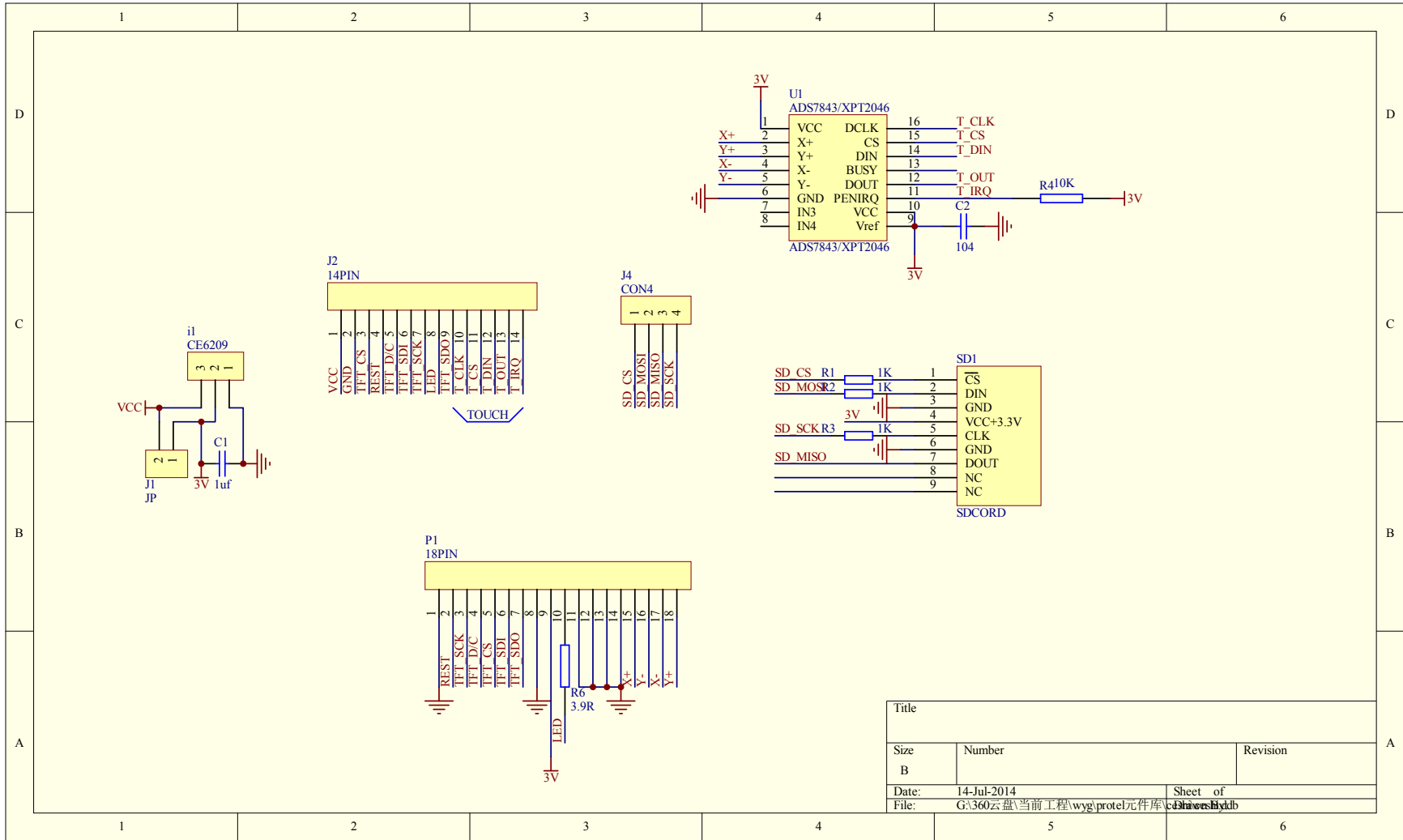
## Bausatz-Shop

# TFT LCD Display Modul 2,4"

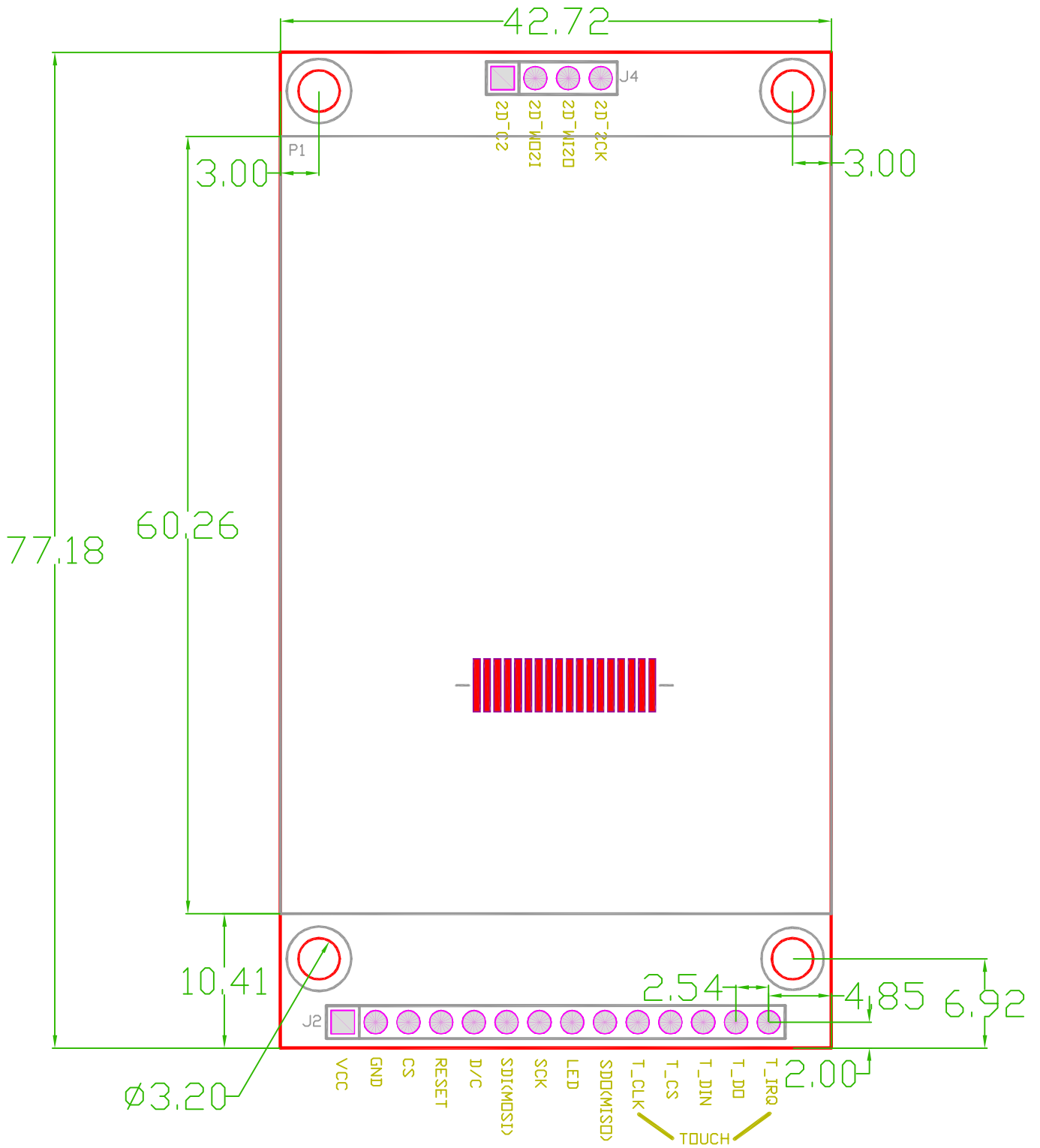
Technische Daten

## Technische Daten

- Typ: 2,4" TFT LCD ohne Touch Panel
- Ansteuerung: Seriell / SPI
- Anzeige bereich: 65 (W) X 45 (H) mm
- Treiber: TFT aktive matrix
- Pixel anordnung: RGB vertikale streifen
- Treiber IC: ILI9341
- Hintergrundbeleuchtung: Weiße LED
- Farbtiefe: 262 K/65 K
- Auflösung (Punkte): 240RGB \* 320
- Stromversorgung: 3.3V / 5V
- Anschluss mit 4 IOs (SPI)
- Anschluss mit 9 IOs (Seriell)
- Abmessungen: 42,72 x 77,18 mm



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# **SPECIFICATION FOR** **TFT LCD MODULE**

**MODEL NO:**

**CUSTOMER:**

**Customer Approval:**

- Approve Specification Only**
- Approve Specification and Sample**

APPROVED BY
DATE:

PREPARED BY	CHECKED BY	APPROVED BY

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### RECORDS OF REVISION

DATE	REF.PAGE PARAGRAPH DRAWING No.	REVISE D No.	SUMMARY	REMARK
2014-4-4	ALL	A	FIRST ISSUE	

## 1. Introduction

### 1.1 Scope of application

This specification applies to the Negative type TFT transmissive dot matrix LCD module that is supplied by **SHENZHEN HANYUMODERN ELECTRONICS CO.,LTD.** This LCD module should be designed for mobile phone use. LCD specification: 6:00, Dots 240xRGBx320. As to basic specification of the driver IC, refer to the IC (ILI9341V) specification and datasheet.

### 1.2 Structure:

Double display structure:

TFT Module + FPC + BL

FULL 262k Color 2.4 inch TFT LCD size for main LCD;

One bare chip with gold bump (COG) TECH;

### 1.3 TFT features:

Structure: TFT PANNEL+IC+FPC+TP;

Transmissive Type LCD

240 dot-source and 320 dot-gate outputs;

262k Color;

White LED back light;

### 1.4 Applications:

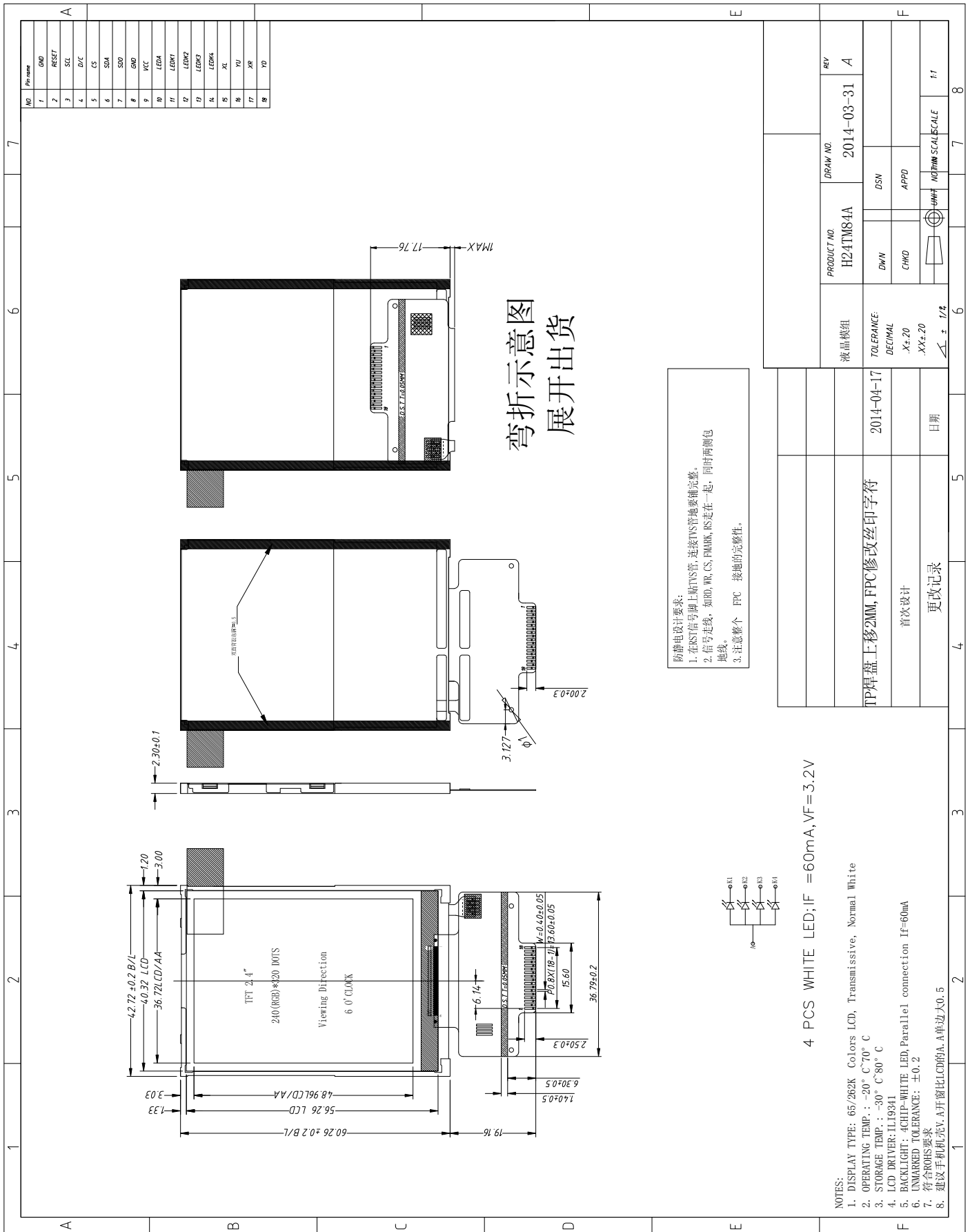
Mobile phone, Mp4

### 1.5 This module uses ROHS material

## 2. General specification

ITEM	Standard value	UNIT
LCD Type	TFT Negative Transmissive	---
Driver element	a-Si TFT Active matrix	
Number of Dots	240*(RGB)*320	Dots
Pixel Arrangement	RGB Vertical Stripe	
Pixel Pitch (W*H)	0.153(W)*0.153(H)um	um
Display Area	36.72(W) × 48.96(H) mm	mm
Viewing Direction	6 O'clock	
Driver IC	ILI9341V	
Module Size(W*H*T)	42.72(W) × 60.26 (H) × 2.30(T)	mm
Approx. Weight	TBD	g
Back Light	White LED	
Touch Panel Type	-	

### 3. Mechanical drawing





## 4. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Supply voltage for logic	$V_{DD}$	-0.3	3.0	V
Input voltage for logic	$V_{IN}$	-0.5	$V_{DD} + 0.3$	V
Supply current (One LED)	$I_{LED}$		20	mA
Operating temperature	$T_{OP}$	-20	+70	°C
Storage temperature	$T_{ST}$	-30	+80	°C

## 5. ELECTRICAL CHARACTERISTICS

Item	Symbol	Min	Typ	Max	Unit	Applicable terminal
Supply voltage for logic	$V_{DD}$	2.6	2.8	3.0	V	$V_{DD}$
Input voltage	$V_{IL}$	-0.3	-	$0.2 V_{DD}$	V	
	$V_{IH}$	$0.8 V_{DD}$	-	$V_{DD}$	V	
Input leakage current	$I_{LKG}$				μA	
LED Forward voltage	$V_f$	3.0	3.2	3.3	V	--
Input backlight current	$I_{LED}$	-	60	--	mA	With One LED

## 6. OPTICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITIONS	SPECIFICATIONS			UNIT	NOTE	
			MIN.	TYP.	MAX.			
Brightness	B	Viewing normal angle	--	150	--	Cd/m <sup>2</sup>	All left side data are based on LEAD's product reference only	
Contrast Ratio	CR		100	120	--	--		
Response Time	$T_r + T_f$		--	25	40	ms		
CIE Color coordinate	Red		$X_R$	--	0.571			
			$Y_R$		0.352			
	Green		$X_G$	--	0.345			
			$Y_G$		0.557			
	Blue		$X_B$	--	0.148			
			$Y_B$		0.128			
White	$X_W$		--	0.314				
	$Y_W$		0.334					
Viewing Angle	Hor.	$\theta_{X+}$	40	45	--	Deg.		
		$\theta_{X-}$	40	45	--			
	Ver.	$\theta_{Y+}$	30	35	--			
		$\theta_{Y-}$	10	15	--			
Uniformity	Un		80	85		%		

## 7. MCU Interface Pin Function

NO.	SYMBOL	Description	I/O
1	GND	GND	Power supply
2	/RESET	Reset signal	I
3	SCL	serial interface clock	I
4	RS	Data/Commander selection	I
5	CS/	Chip select signal (Low: active)	I
6	SDA	Serial input signal	I
7	SDO	Serial output signal	O
8	GND	GND	Power supply
9	VDD	Analog supply power	Power supply
10	LEDA	LED anode	
11-14	K1- K4	LED cathode	
15	XL	Touch screen terminal	I
16	YU	Touch screen terminal	I
17	XR	Touch screen terminal	I
18	YD	Touch screen terminal	I