POWERTIP TECH. CORP.

SPECIFICATIONS

CUSTOMER	:	PTC
SAMPLE CODE	:	SH128800T004-ZZC06
MASS PRODUCTION CODE	:	PH128800T004-ZZC06
SAMPLE VERSION	:	05
SPECIFICATIONS EDITION	:	011
DRAWING NO. (Ver.)	:	JLMD-PH128800T004-ZZC06_004
PACKAGING NO. (Ver.)	:	JPKG-PH128800T004-ZZC06_002

Customer Approved

Date: POWERTIP 2023.08.31 JS RD APPROVED

Approved	Checked	Designer
劉進 Jin Liu	劉進 Jin Liu	陳璐 Lu Chen

☐ Preliminary specification for design input

■ Specification for sample approval

POWERTIP TECH. CORP.

Represented by:

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1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Screen size(Inch)	10.1(Diagonal)
Resolution	1280* (R、G、B) * 800 Dots
Display mode	Transmissive, Normally Black
Color	16.7M
Interface	8 bit LVDS
ROHS	THIS PRODUCT CONFORMS THE ROHS OF PTC

1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	254.96(W) * 173.6 (L) * 10.0 (H)Max	mm

LCD panel

Item	Standard Value	Unit
Active Area	216.96 (W) * 135.60 (L)	mm

Note : For detailed information please refer to LCM drawing.

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1.3 Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Power Supply Voltage	VDD	-	-0.3	+4.0	V
Power Supply Voltage	LED_VCC	-	-0.3	+27	V
Operating Temperature	T_{OP} (Ts)	Note 1	-20	+70	℃
Storage Temperature	T_{ST} (Ta)	Note 2	-30	+80	℃
Storage Humidity	H_D	Ta＜60 ℃	10	90	%RH

The absolute maximum rating values of this product are not allowed to be exceeded at any times. Should a module be used with any of the absolute maximum ratings exceeded, the characteristics of the module may not be recovered, or in an extreme case, the module may be permanently destroyed.

Note 1：Ts is the temperature of panel's surface.

Note 2：Ta is the ambient temperature of samples.

1.4 DC Electrical Characteristics

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply Voltage for LCD Driver		VDD	-	2.75	3.3	3.6	V
Power Supply Voltage for LED Driver		LED_VCC	-	8.0	12.0	15.0	V
Power Supply Current		IDD	VDD=3.3V	-	400	600	mA
Power Supply Current For LED Driver		ILED_VCC	LED_VCC =12V	-	650	700	mA
Power Consumption		Pd	VDD=3.3V LED_VCC =12V	-	-	1.98+8.4	W
PWM Signal Voltage	High	VPWM	-	1.9	-	-	V
	Low		-	-	-	0.8	V
LED Enable Voltage	High	VLED_EN	-	1.9	-	-	V
	Low		-	-	-	0.8	V
PWM Frequency		F_{PWM}	-	100	-	20000	Hz

1.5 Optical Characteristics

Ta=25°C

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	-
Response time		Tr + Tf	-	-	25	50	ms	Note2
Viewing angle	Top	ΘY+	CR ≥ 10	-	85	-	Deg.	Note4
	Bottom	ΘY-		-	85	-		
	Left	ΘX-		-	85	-		
	Right	ΘX+		-	85	-		
Contrast ratio		CR	If=200mA	600	800	-	-	Note3
Color of CIE Coordinate (With B/L and TP)	White	X		0.26	0.31	0.36	-	Note1
		Y		0.30	0.35	0.40		
	Red	X		0.55	0.60	0.65		
		Y		0.29	0.34	0.39		
	Green	X		0.27	0.32	0.37		
		Y		0.54	0.59	0.64		
	Blue	X		0.10	0.15	0.20		
		Y		0.11	0.16	0.21		
Average Brightness Pattern=white display (With B/L and TP)		IV	If=200mA	700	800	-	cd/m2	Note1
Luminance uniformity		YU	-	70	-	-	%	Note1

Note1:

1：△B=B(min) / B(max) × 100%

2：Measurement Condition for Optical Characteristics:

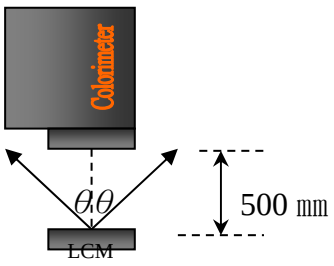
a：Environment: 25℃±5℃ / 60±20%R.H，no wind，dark room below 10 Lux at typical lamp current and typical operating frequency.

b：Measurement Distance: 500 ± 50 ㎜ ，(θ= 0°)

c：Equipment: TOPCON BM-7 fast，(field 1°)，after 10 minutes operation.

d：The uncertainty of the C.I.E coordinate measurement ±0.01，Average Brightness ± 4%





Colorimeter=BM-7 fast

1.6 Backlight Characteristics

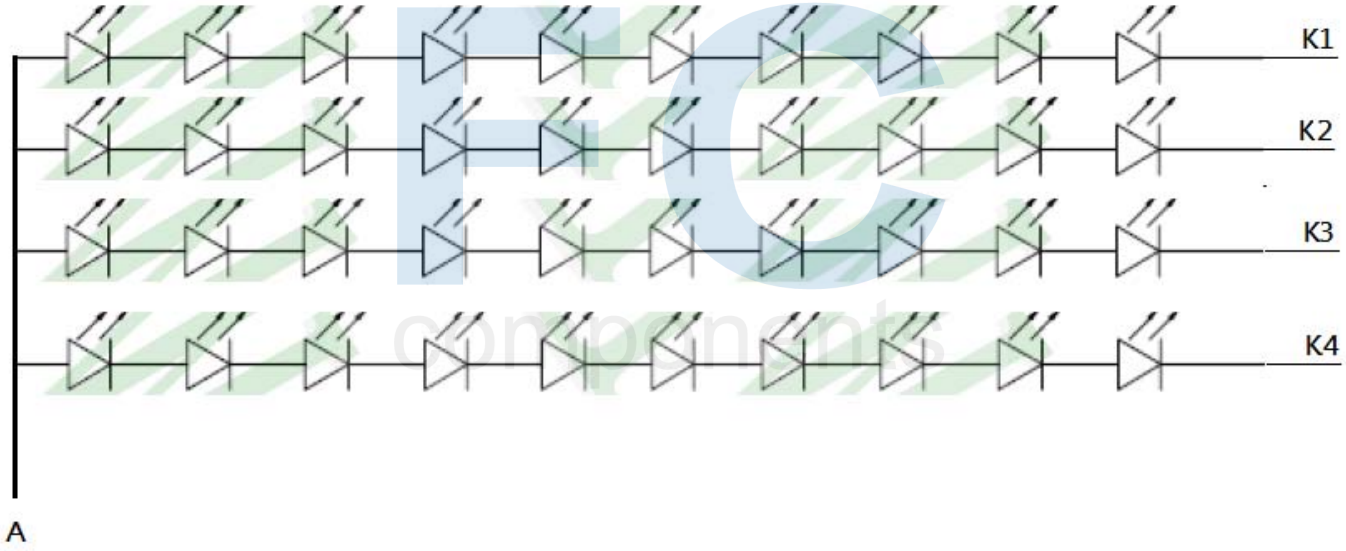
Maximum Ratings

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Dissipation	Pd	1 LED	-	-	306	mW
LED Forward Current	IF		-	-	90	mA
LED Reverse Voltage	VR		-	-	0.5	V

Electrical / Optical Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Voltage for LED Backlight	VF	If=200mA	26	28	30	V
Current for LED Backlight	IF		-	200	-	mA
Color	White					

Internal Circuit Diagram



Other Description

Item	Conditions	Description
Life Time	Ta =25℃ IF= 200mA	70000 hrs

1.7 Touch Panel Characteristics

Features

Item	Standard Value
Touch Panel Size	10.1”
Touch type	Projective capacitive touch panel
Input Method	Finger / 5 Points touch
Output Interface	USB
IC	mxT1066T

Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	254.96(W) * 173.6(L)	mm
Viewing Area	217.96 (W) * 136.60 (L)	mm

Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	VDD_5.0	-	-0.3	+6.0	V
Operating Temperature	T_{OP}	-	-20	+70	°C
Storage Temperature	T_{ST}	-	-30	+80	°C

DC Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply Voltage for USB	VBUS	-	-	5.0	-	V

Optical Characteristics

Item	Standard Value	Unit
Total light transmittance	85% or more	-
Hardness	≥7H	

Touch Panel IC Read/Write description & Register Mapping

Reference :Atmel Touch Driver Porting Reference Guide.

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2.2 Interface Pin Description

Pin No.	Symbol	Description
1	NC	No Connection.
2	VDD	Power Supply.
3	VDD	Power Supply.
4	NC	No Connection.
5	NC	No Connection.
6	NC	No Connection.
7	NC	No Connection.
8	LV0N	-LVDS Differential Data Input.
9	LV0P	+LVDS Differential Data Input.
10	GND	Ground.
11	LV1N	-LVDS Differential Data Input.
12	LV1P	+LVDS Differential Data Input.
13	GND	Ground.
14	LV2N	-LVDS Differential Data Input.
15	LV2P	+LVDS Differential Data Input.
16	GND	Ground.
17	LVCLKN	-LVDS Differential Clock Input.
18	LVCLKP	+LVDS Differential Clock Input.
19	GND	Ground.
20	LV3N	-LVDS Differential Data Input.
21	LV3P	+LVDS Differential Data Input.
22	GND	Ground.
23	LED_GND	Ground for LED Driving
24	LED_GND	Ground for LED Driving
25	LED_GND	Ground for LED Driving
26	NC	No Connection.
27	LED_PWM	LED Backlight PWM control signal for dimming.

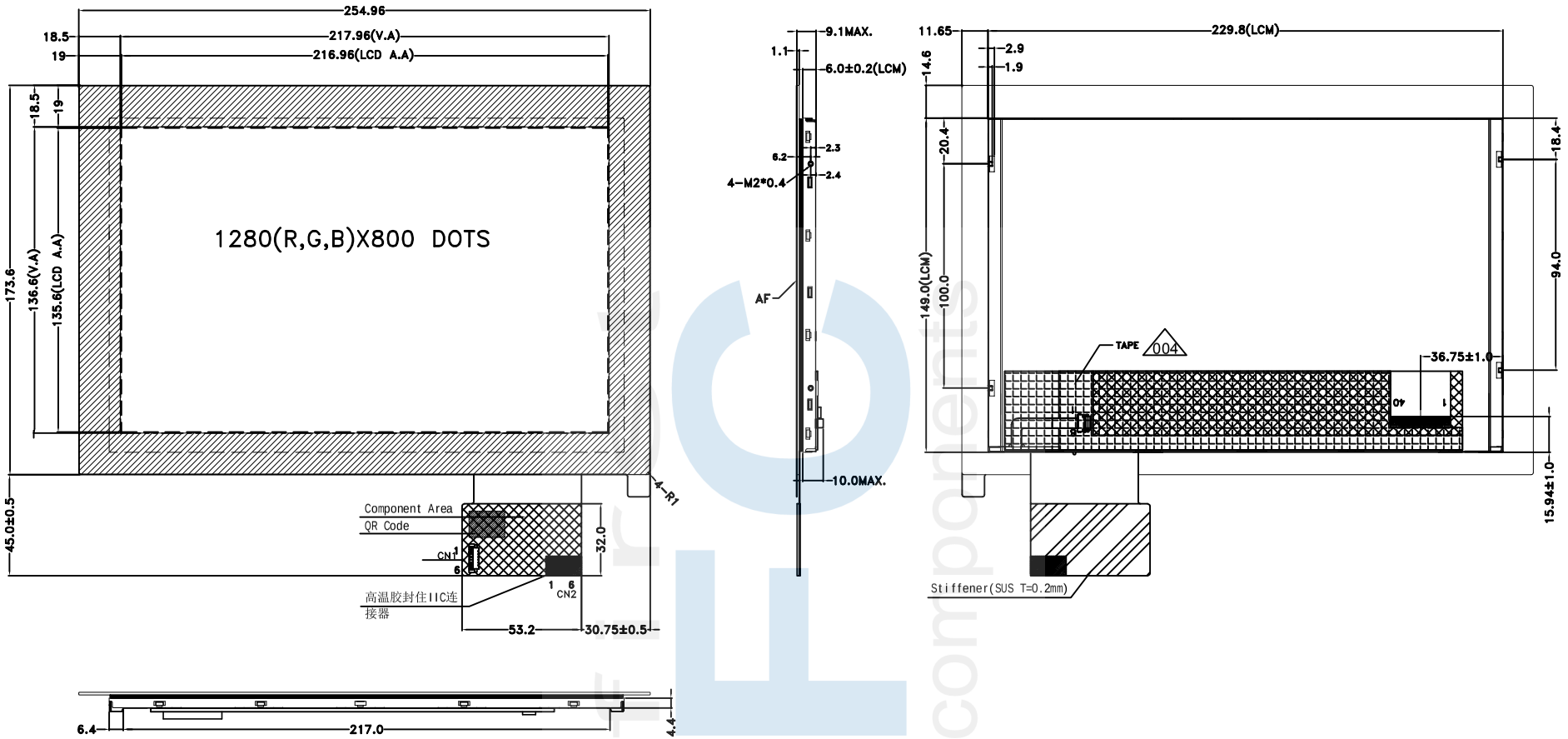
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Pin No.	Symbol	Description
28	LED_EN	LED Backlight Enable Input.
29	NC	No Connection.
30	NC	No Connection.
31	LED_VCC	Power Supply for LED Backlight driving.
32	LED_VCC	Power Supply for LED Backlight driving.
33	LED_VCC	Power Supply for LED Backlight driving.
34	NC	No Connection.
35	NC	No Connection.
36	NC	No Connection.
37	NC	No Connection.
38	NC	No Connection.
39	NC	No Connection.
40	NC	No Connection.

CN1(CTP USB Interface):

Pin No.	Symbol	Description
1	VDD	Power Supply.(+5.0V)
2	D-	D- Differential Data Input.
3	D+	D+ Differential Data Input.
4	NC	No Connection.
5	GND	Ground.
6	NC	No Connection.



NOTES:

1. LCD TYPE: TFT LCD
2. LCD DISPLAY: POSITIVE/TRANSMISSIVE
3. The tolerance unless classified ±0.3mm
4. Manufacturer/Type :Starconn/300E40-0010RA-G3
5. Mating Receptacle/Type (Reference) :111B40-1211TA-G3 or Compatible
6. CN1:molex 53261-0671 OR EQUIVALENT.

REV	REV BY	REVISER	DATE
007			
006			
005			
004	ADD TAPE	Air	2020/04/10
003	UPDATE BL&FC	Air	2019/11/22
002	--	Air	-
001	NEW DRAWING	Air	2018/01/31

PART NO: PH128800T004-ZZC06

DRAWING NAME : JLMD-PH128800T004-ZZC06

TITLE: LCD MODULE DRAWING

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Design	Air	(3)	Surface		
Check	-	Unit	MM	Material	
Approve	Terry	Scale	1:1	Thickness	
		Page	1/1	Quantity	

Length(Mim) (mm)	Precision Level
1 ~ 4	-
4 ~ 16	-
16 ~ 63	-
63 ~ 250	-
250 ~ 1000	-

PT-A-054-01

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