POWERTIP *TECH. CORP.*

SPECIFICATIONS

CUSTOMER	:	
SAMPLE CODE	:	SH128800T004-ZFC
MASS PRODUCTION CODE	:	PH128800T004-ZFC
SAMPLE VERSION	:	01
SPECIFICATIONS EDITION	:	004
DRAWING NO. (Ver.)	:	LMD-PH128800T004-ZFC (Ver.004)
PACKAGING NO. (Ver.)	:	PKG-PH128800T004-ZFC (Ver.002)

Customer Approved

Date:

Approved	Checked	Designer
黃秋源 **Oliver Huang**	石建莊 **Stone Shin**	王聖硯 **Stephen Wang**

POWERTIP
2017.07.21
TWRD APR

☐ Preliminary specification for design input

■ Specification for sample approval
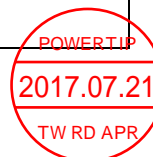
POWERTIP TECH. CORP.

History of Version

Date	Ver.	Edi.	Description	Page	Design by
03/13/2017	01	001	New Drawing.	-	Stephen
03/21/2017	01	002	Update Spec	15、16	Stephen
05/15/2017	01	003	New Sample	-	Stephen
07/19/2017	01	004	Update packages version	-	Stephen

Total: 26 Page

Contents

1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Touch panel	Projective Capacitive Touch Panel USB HID Touch
Screen size(inch)	10.1(Diagonal)
Driver element	IPS,Normally Black
Resolution	1280* (R、G、B) * 800 Dots
Display mode	Transmissive, ANTI-GLARE
Color	16.7M
Weight	458.7 g
Interface	HDMI
ROHS	THIS PRODUCT CONFORMS THE ROHS OF PTC Detail information please refer website : http://www.powertip.com.tw/news_detail.php?Key=1&cID=1

1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	254.96(W) * 173.6 (L) * 26.2 (H)	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.

1.3 Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Power Supply Voltage	VDD		-0.3	+4.0	V
Operating Temperature	T$_{OP}$	-	-30	+80	℃
Storage Temperature	T$_{ST}$	-	-30	+80	℃
Storage humidity	H$_D$	Ta＜25 ℃	55	60	%RH

1.4 DC Electrical Characteristics

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Power Supply Voltage for LCD Driver		VDD-VSS	-	3.0	3.3	3.6	V	-
Power Supply Voltage for LED Driver		VLED-VLSS	-	6	12	21	V	-
PWM Signal Voltage	High	V$_{PWM}$	-	3.0	-	3.6	V	-
	Low			0	-	0.4		-
LED Enable Voltage	High	V$_{LED\_EN}$	-	3.0	-	3.6	V	-
	Low			0	-	0.4		-
VDD Current		IDD	VDD=3.3V, Pattern= Picture*1	-	0.295	-	A	-
VLED Current		ILED	VLED=12V PWM=100%	-	0.2	-	A	-
VDD Power Consumption		PDD	VDD=3.3V	-	-	1.2	W	-
VLED Power Consumption		PLED	VLED=12V	-	-	2.5	W	
Rush Current		I$_{rush}$	-	-	-	1.5	A	-
Driver Ripple Voltage		V$_{VDD-RP}$	-	-	-	300	mV	-
Input PWM Frequency		FPWM	-	100	-	200	Hz	D$_{DIM}$≥0.1%
				200	-	500		D$_{DIM}$≥0.25%
				500	-	1000		D$_{DIM}$≥0.5%
				1000	-	2000		D$_{DIM}$≥1%
				2000	-	5000		D$_{DIM}$≥2.5%
				5000	-	10000		D$_{DIM}$≥5%
				10000	-	20000		D$_{DIM}$≥10%
				20000	-	30000		D$_{DIM}$≥15%

Note1: Maximum current display.

1.5 Optical Characteristics

TFT LCD Panel

Ta=25℃

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	-
Response time		Tr + Tf	-	-	25	50	ms	Note2
Viewing angle	Top	ΘY+	CR ≥ 10	75	85	-	Deg.	Note4
	Bottom	ΘY-		75	85	-		
	Left	ΘX-		75	85	-		
	Right	ΘX+		75	85	-		
Contrast ratio		CR		600	800	-	-	Note3
Color of CIE Coordinate (With B/L)	White	X	IF=TBD mA	0.265	0.315	0.365	-	Note1
		Y		0.303	0.353	0.403		
	Red	X		-	0.591	-		
		Y		-	0.349	-		
	Green	X		-	0.344	-		
		Y		-	0.581	-		
	Blue	X		-	0.154	-		
		Y		-	0.146	-		
Average Brightness Pattern=white display		IV	IF=80 mA	350	450	-	cd/m2	Note1
Luminance uniformity		YU	IF=80 mA	70	75	-	%	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
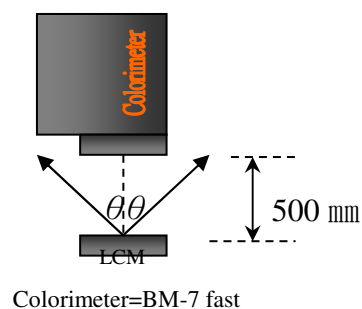
Note2: Definition of response time:
The output signals of photo detector are measured when the input signals are changed from "black" to "white"(falling time) and from "white" to "black"(rising time), respectively. The response time is defined as the time interval between the 10% and 90% of Amplitudes.
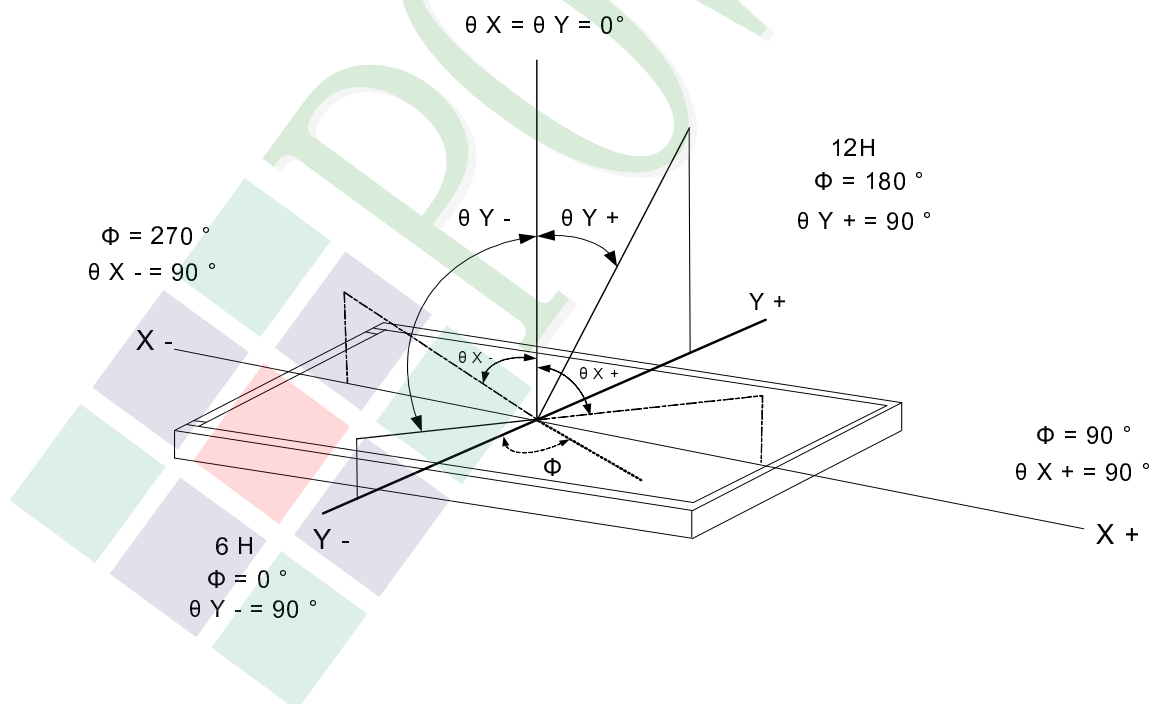Refer to figure as below:
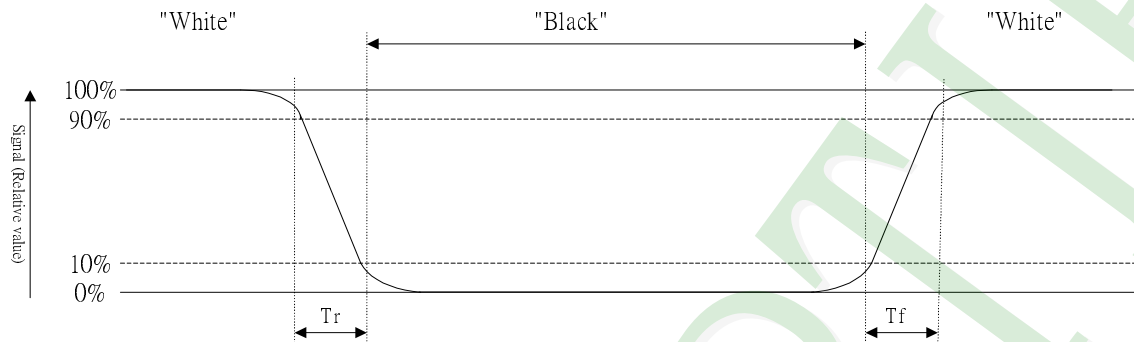
Note3: Definition of contrast ratio:
Contrast ratio is calculated with the following formula

$$\text{Contrast ratio (CR)} = \frac{\text{Photo detector output when LCD is at "White" state}}{\text{Photo detector output when LCD is at "Black" state}}$$

Note4: Definition of viewing angle:
Refer to figure as below:

1.6 Backlight Characteristics

Maximum Ratings

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Dissipation	Pd	-	-	100	-	mW
LED Forward Current	IF	1 LED	-	-	30	mA
LED Reverse Voltage	VR	1 LED	-	-	1.2	V

Electrical / Optical Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Voltage for LED Backlight	VF	If=80mA	27.5	31	34	V
Current for LED Backlight	IF		-	80	-	mA
Color		White				

Other Description

Item	Conditions	Description
Life Time	Ta =25℃ If= 80 mA	50000 hrs

LED=10S4P
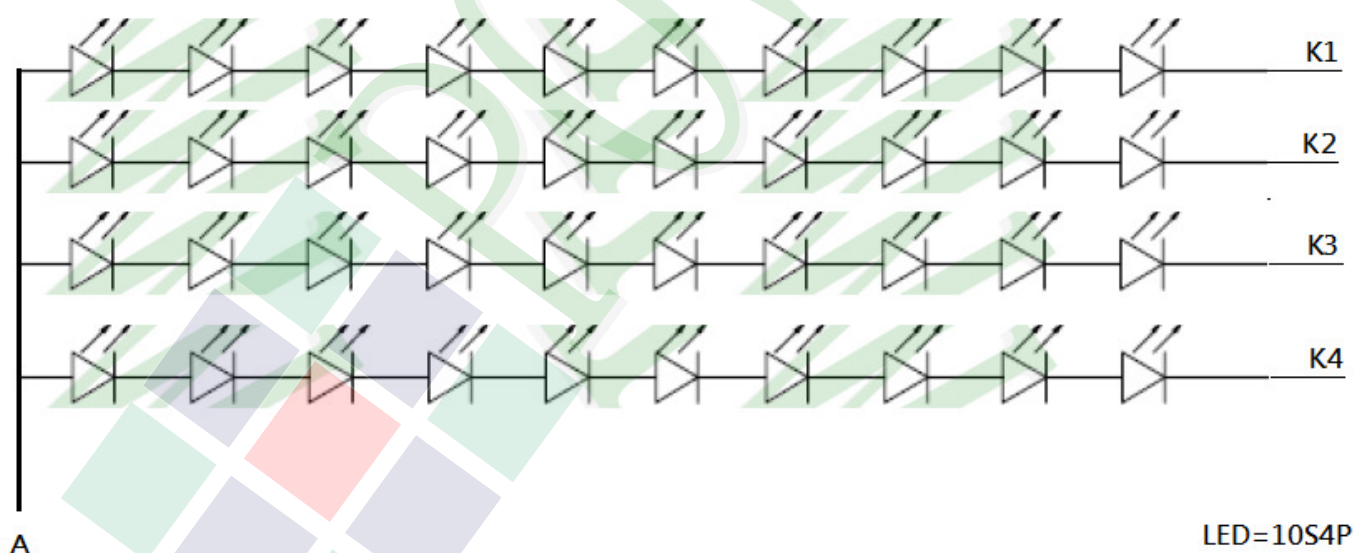
1.7 Touch Panel Characteristics

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
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}	-	-30	+80	℃
Storage Temperature	T_{ST}	-	-30	+80	℃

DC Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply Voltage	VDD_5.0	-	-	5.0	-	V

Touch Panel IC Read/Write description & Register Mapping

Reference :Atmel Touch Driver Porting Reference Guide.

2. MODULE STRUCTURE

2.1 Counter Drawing

2.1.1 LCM Mechanical Diagram

* See Appendix

2.1.2 Block Diagram
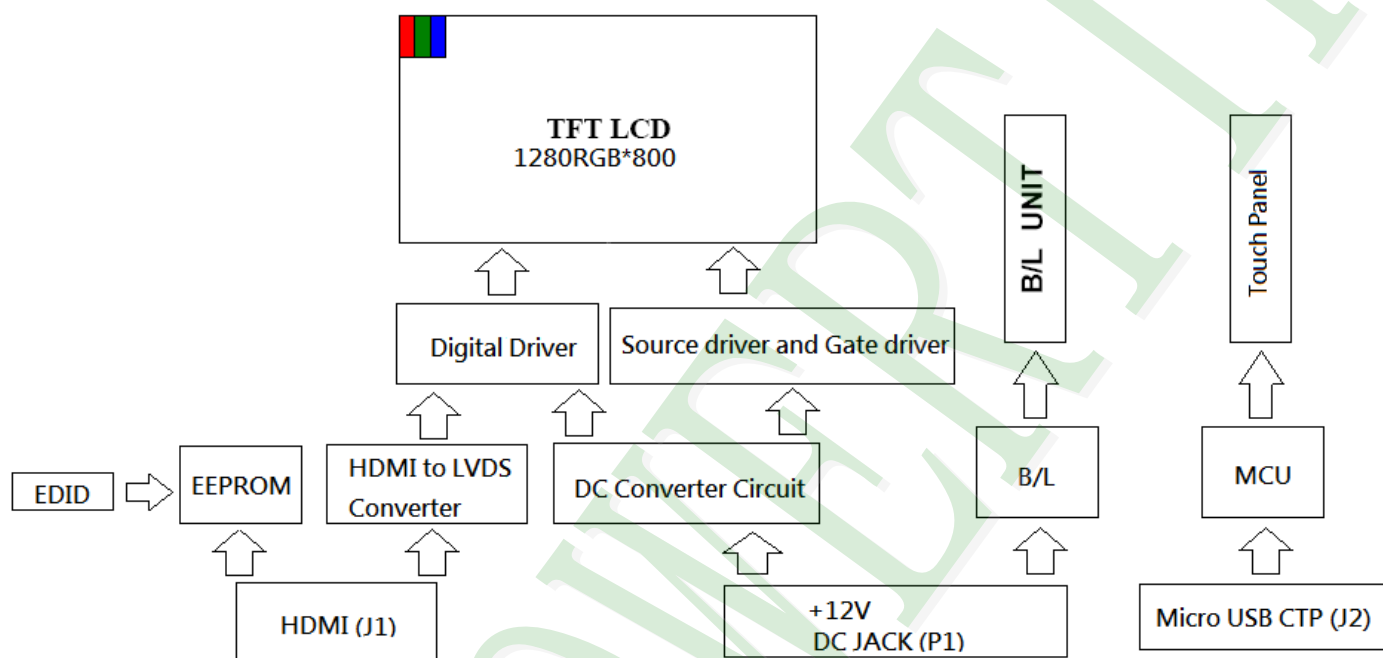
2.2 Interface Pin Description

2.2.1 (J1:HDMI 1.3 A type Interface)

Pin#	Name	Description
1	TX2+	TMDS Data 2+
2	TX2 Shield	TMDS Data 2 Shield
3	TX2−	TMDS Data 2-
4	TX1+	TMDS Data 1+
5	TX1 Shield	TMDS Data 1 Shield
6	TX1−	TMDS Data 1-
7	TX0+	TMDS Data 0+
8	TX0 Shield	TMDS Data 0 Shield
9	TX0−	TMDS Data 0-
10	TXC+	TMDS Clock+
11	TXC Shield	TMDS Clock Shield
12	TXC−	TMDS Clock-
13	CEC	CEC
14	NC	No connection
15	SCL	Serial Clock for DDC
16	SDA	Serial Data for DDC
17	GND	Power Ground
18	V5V	+5V Power for HDMI
19	Hot Plug Detect	Hot Plug Detect

2.2.2 (J2:Micro USB Capacitive Touch Panel Interface)

Pin#	Name	Description
1	V5V	V_{Bus} 4.4V-5.25V
2	D-	Data-
3	D+	Data+
4	ID	No connection
5	GND	Power Ground.

2.2.3 (J7:LVDS Interface)

Pin#	Name	Description
1	V3.3	+3.3V Power
2	V3.3	+3.3V Power
3	V3.3	+3.3V Power
4	GND	Power Ground
5	GND	Power Ground
6	GND	Power Ground
7	TX0-	LVDS Data 0-
8	TX0+	LVDS Data 0+
9	TX1−	LVDS Data 1-
10	TX1+	LVDS Data 1+
11	TX2-	LVDS Data 2-
12	TX2+	LVDS Data 2+
13	GND	Power Ground
14	GND	Power Ground
15	TXCLK-	LVDS Clock -
16	TXCLK+	LVDS Clock+
17	TX3-	LVDS Data 3-
18	TX3+	LVDS Data 3+
19	GND	Power Ground
20	GND	Power Ground

2.2.4 (J8:POWER Interface)

Pin#	Name	Description
1	GND	Power Ground
2	GND	Power Ground
3	NC	No connection
4	B/L Enable	Backlight Enable(Active High)
5	V12V	+12V Power
6	V12V	+12V Power

2.2.5 (PJ1:POWER DC JACK Interface)

PJ1

Hold Φ6.4mm / Center Pin Φ 2.0mm

Pin#	Name	Description
1	V12V	+12V Power
2	GND	Power Ground

2.3 Timing Characteristics

2.3.1 POWER ,SIGNAL SEQUENCE

$0.5 < t1 \leq 10ms$ $200ms \leq t5$

$0 < t2 \leq 50ms$ $200ms \leq t6$

$0 < t3 \leq 50ms$ $200ms \leq t7$

$0 < t4 \leq 10ms$

VDD=3.3V

LCD POWER SUPPLY
LOGIC SIGNAL

3.0V

0.3V

data

3.0V

0.3V

0.3V

T1 T2

T3 T4 T5

VLED

BACKLIGHT POWER
SUPPLY

T6

T7
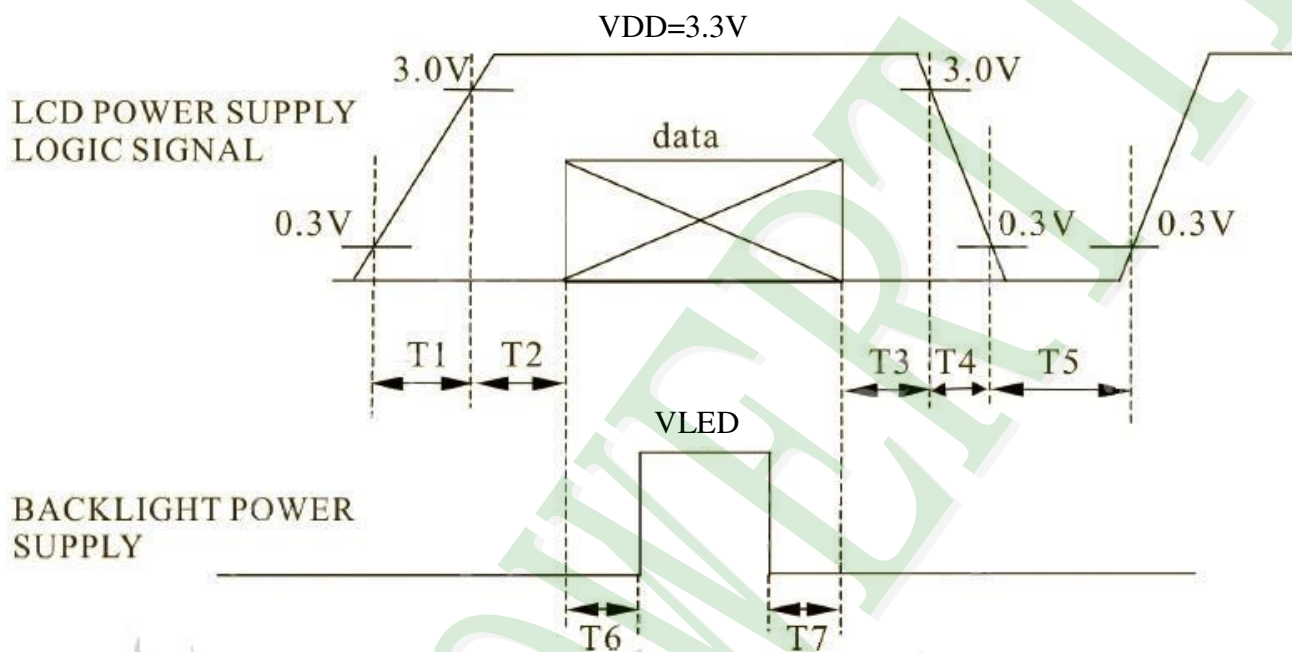
2.3.2 LVDS Data Input Format

8-BIT LVDS INPUT
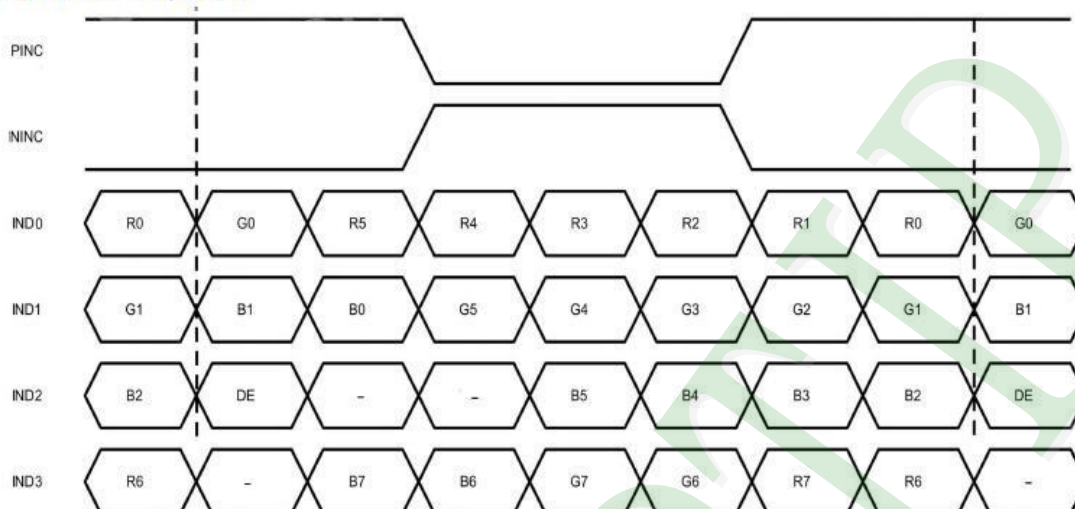
2.3.3 Interface Timings

Parameter	Symbol	Unit	Min.	Typ.	Max.
Frame Rate	--	Hz	-	60	-
Frame Period	T_V	line	815	823	1023
Vertical Display Time	T_{VD}	line		800	
Vertical Blanking Time	$T_{VW}+T_{VBP}+T_{VFP}$	line	15	23	33
1 Line Scanning Time	T_H	clock	1410	1440	1470
Horizontal Display Time	T_{HD}	clock		1280	
Horizontal Blanking Time	$T_{HW}+T_{HBP}+T_{HFP}$	clock	60	160	190
Clock Rate	$1/T_C$	MHz	68.9	71.1	73.4
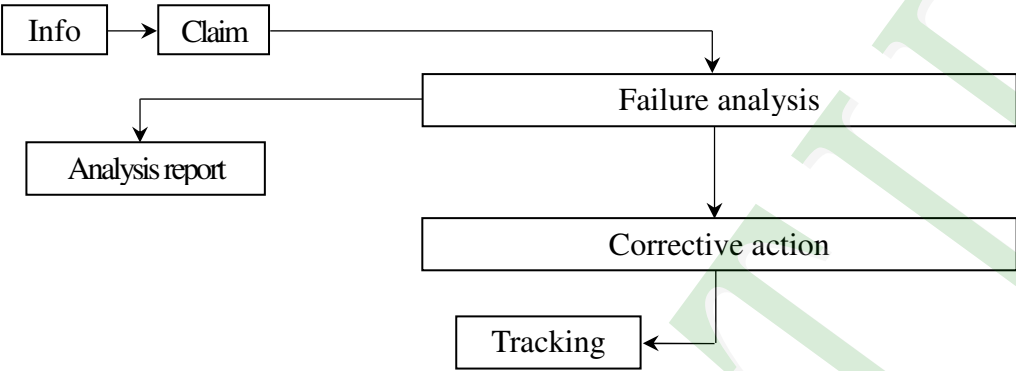
2.3.4 Timing Diagram of Interface Signal (DE mode)
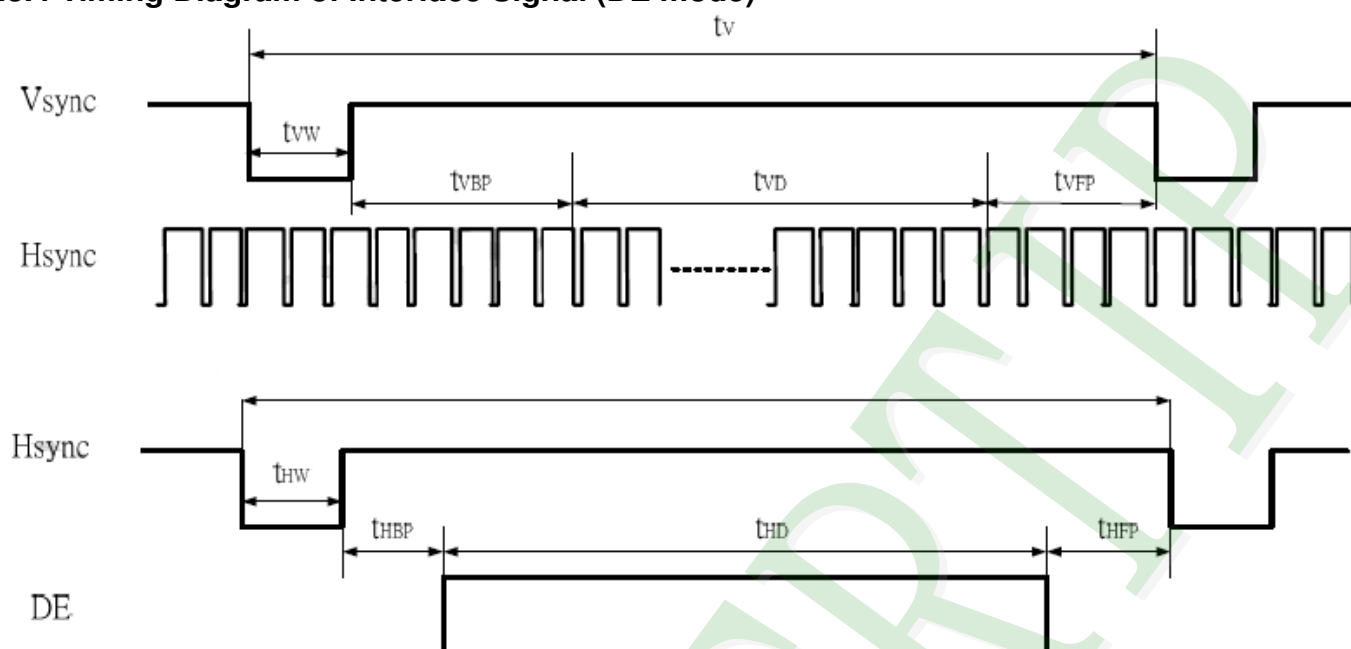
3. QUALITY ASSURANCE SYSTEM

3.1 Quality Assurance Flow Chart

Item	Customer	Sales	R&D	Q.A	Manufacturing	Product control	Purchase	Inventory control
Marketing & Design								
Sample Approval								
Pilot Run & Mass Product								
Ship Out								

Info → Survey

Request → Inquiry → Project evaluation

Project Validation

NG

Quote   OK

Contract

Design check

Sample test

NG   Verification   OK

NG   Sample approval   OK

Pilot run & Reliability test

NG   Verification   OK

Specification preparation

Mass production

OK   Inspection   NG

Shipment

Ship out

Item	Customer	Sales	R&D	Q.A	Manufacturing	Product control	Purchase	Inventory control
Sales Service	 Info → Claim Failure analysis Analysis report Corrective action Tracking							
Q.A Activity	1. ISO 9001 Maintenance Activities 2. Process improvement proposal 3. Equipment calibration 4. Education And Training Activities 5. Standardization Management							

3.2. Inspection Specification

◆**Scope**：The document shall be applied to TFT-LCD Module for 3.5″ ~10″ (Ver.B01).

◆**Inspection Standard**：MIL-STD-105E Table Normal Inspection Single Sampling Level Ⅱ.

◆**Equipment**：Gauge、MIL-STD、Powertip Tester、Sample

◆**Defect Level**：Major Defect AQL：0.4 ; Minor Defect AQL：1.5

◆**OUT Going Defect Level**：Sampling.

◆**Standard of the product appearance test**：

a. Manner of appearance test：

（1）. The test best be under 20W×2 fluorescent light，and distance of view must be at 30 cm.

（2）. The test direction is base on about around 45° of vertical line.
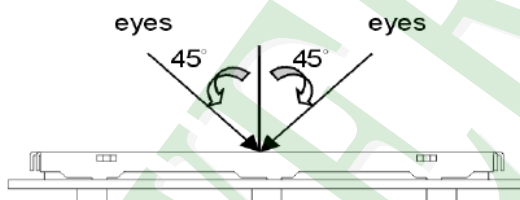
（3）. Definition of area.
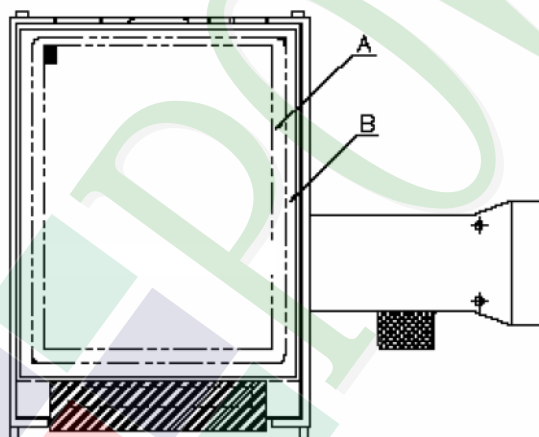
A area : viewing area

B area : Outside of viewing area

（4）. Standard of inspection： (Unit：mm)
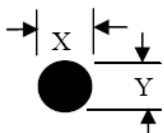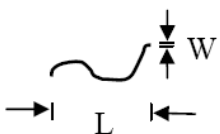
◆**Specification For TFT-LCD Module 3.5″~10″:**

NO	Item	Criterion	Level
01	Product condition	1.1 The part number is inconsistent with work order of production.	Major
		1.2 Mixed product types.	Major
		1.3 Assembled in inverse direction.	Major
02	Quantity	2.1 The quantity is inconsistent with work order of production.	Major
03	Outline dimension	3.1 Product dimension and structure must conform to structure diagram.	Major
04	Electrical Testing	4.1 Missing line character and icon.	Major
		4.2 No function or no display.	Major
		4.3 Display malfunction.	Major
		4.4 LCD viewing angle defect.	Major
		4.5 Current consumption exceeds product specifications.	Major
05	Dot defect (Bright dot、Dark dot) On-display	<table><tr><th colspan="2">Item</th><th>Acceptance (Q'ty)</th></tr><tr><td rowspan="4">Dot Defect</td><td>Bright Dot</td><td>≦ 4</td></tr><tr><td>Dark Dot</td><td>≦ 5</td></tr><tr><td>Joint Dot</td><td>≦ 3</td></tr><tr><td>Total</td><td>≦ 7</td></tr></table> 5.1 Inspection pattern: full white, full black, Red, Green and blue screens. 5.2 It is defined as dot defect if defect area >1/2 dot. 5.3 The distance between two dot defect ≧5 mm.	Minor

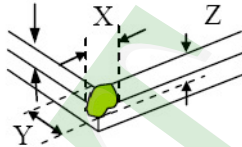| NO	Item	Criterion	Level
06	Black or white dot、scratch、contamination Round type $\Phi=(x+y)/2$ Line type 	**6.1 Round type (Non-display or display) :** <table><tr><td rowspan="2">Dimension (diameter：Φ)</td><td colspan="2">Acceptance (Q'ty)</td></tr><tr><td>A area</td><td>B area</td></tr><tr><td>Φ ≦ 0.25</td><td>Ignore</td><td rowspan="3">Ignore</td></tr><tr><td>0.25 ＜ Φ ≦ 0.50</td><td>5</td></tr><tr><td>Φ ＞ 0.50</td><td>0</td></tr><tr><td>Total</td><td>5</td><td></td></tr></table> **6.2 Line type(Non-display or display) :** <table><tr><td rowspan="2">Length (L)</td><td rowspan="2">Width (W)</td><td colspan="2">Acceptance (Q'ty)</td></tr><tr><td>A area</td><td>B area</td></tr><tr><td>---</td><td>W ≦ 0.03</td><td>Ignore</td><td rowspan="4">Ignore</td></tr><tr><td>L ≦10.0</td><td>0.03 ＜ W ≦ 0.05</td><td>4</td></tr><tr><td>L ≦5.0</td><td>0.05 ＜ W ≦ 0.10</td><td>2</td></tr><tr><td>---</td><td>W ＞0.10</td><td>As round type</td></tr><tr><td colspan="2">Total</td><td>5</td><td></td></tr></table>	Minor
07	Polarizer Bubble	<table><tr><td rowspan="2">Dimension (diameter：Φ)</td><td colspan="2">Acceptance (Q'ty)</td></tr><tr><td>A area</td><td>B area</td></tr><tr><td>Φ ≦ 0.25</td><td>Ignore</td><td rowspan="4">Ignore</td></tr><tr><td>0.25 ＜ Φ ≦ 0.50</td><td>4</td></tr><tr><td>0.50 ＜ Φ ≦ 0.80</td><td>1</td></tr><tr><td>Φ ＞ 0.80</td><td>0</td></tr><tr><td>Total</td><td>5</td><td></td></tr></table>	Minor

NO	Item	Criterion	Level
08	The crack of glass	Symbols : X : The length of crack Y : The width of crack. Z : The thickness of crack W : terminal length t : The thickness of glass a : LCD side length 8.1 General glass chip : 8.1.1 **Chip on panel surface and crack between panels:** _(diagrams)_	Minor

	X	Y	Z
	≦ a	Crack can't enter viewing area	≦1/2 t
	≦ a	Crack can't exceed the half of SP width.	1/2 t < Z ≦ 2 t
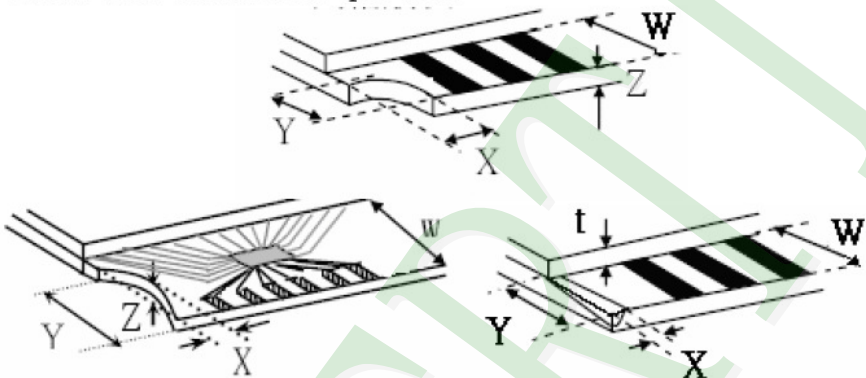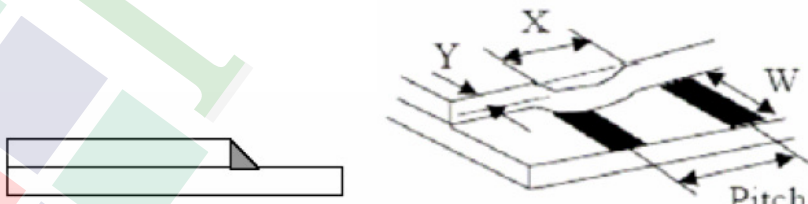
NO	Item	Criterion	Level
08	The crack of glass	Symbols： X : The length of crack Y : The width of crack. Z : The thickness of crack W : terminal length t : The thickness of glass a : LCD side length 8.1.2 Corner crack： 8.2 Protrusion over terminal： 8.2.1 Chip on electrode pad： 	Minor

8.1.2 Corner crack table:

X	Y	Z
≦1/5 a	Crack can't enter viewing area	Z ≦ 1/2 t
≦1/5 a	Crack can't exceed the half of SP width.	1/2 t ＜ Z ≦ 2 t

8.2.1 Chip on electrode pad table:

	X	Y	Z
Front	≦ a	≦ 1/2 W	≦ t
Back	≦ a	≦ W	≦ 1/2 t

NO	Item	Criterion	Level
08	**The crack of glass**	Symbols： X : The length of crack　　　　Y : The width of crack. Z : The thickness of crack　　W : terminal length t : The thickness of glass　　a : LCD side length 8.2.2 Non-conductive portion： X ≦ 1/3 a ; Y ≦ W ; Z ≦ t ⊙ **If the chipped area touches the ITO terminal, over 2/3 of the ITO must remain and be inspected according to electrode terminal specifications.** 8.2.3 Glass remain： X ≦ a ; Y ≦ 1/3 W ; Z ≦ t	**Minor**

Table (8.2.2):

X	Y	Z
≦ 1/3 a	≦ W	≦ t

Table (8.2.3):

X	Y	Z
≦ a	≦ 1/3 W	≦ t

4. RELIABILITY TEST

4.1 Reliability Test Condition   (Ver.B01)

NO.	TEST ITEM	TEST CONDITION
1	**High Temperature Storage Test**	**Keep in +80 ±2℃ 96 hrs** **Surrounding temperature, then storage at normal condition 4hrs.**
2	**Low Temperature Storage Test**	**Keep in −30 ±2℃ 96 hrs** **Surrounding temperature, then storage at normal condition 4hrs.**
3	**High Temperature / High Humidity Storage Test**	**Keep in +60℃ / 90% R.H duration for 96 hrs** **Surrounding temperature, then storage at normal condition 4hrs.** **(Excluding the polarizer)**
4	**Temperature Cycling Storage Test**	**−30℃ → +25℃ → +80℃ → +25℃** **(30mins) (5mins) (30mins) (5mins)** **◄──────── 10 Cycle ────────►** **Surrounding temperature, then storage at normal condition 4hrs.**
5	**ESD Test**	Air Discharge: **Apply 2 KV with 5 times** **Discharge for each polarity +/-** · Contact Discharge: **Apply 250 V with 5 times** **discharge for each polarity +/-** 1. **Temperature ambiance : 15℃～35℃** 2. **Humidity relative : 30%～60%** 3. **Energy Storage Capacitance(Cs+Cd) : 150pF±10%** 4. **Discharge Resistance(Rd) : 330Ω±10%** 5. **Discharge, mode of operation :** **Single Discharge (time between successive discharges at least 1 sec)** **(Tolerance if the output voltage indication : ±5%)**
6	**Vibration Test (Packaged)**	1. **Sine wave 10～55 Hz frequency (1 min)** 2. **The amplitude of vibration : 1.5 mm** 3. **Each direction (X、Y、Z) duration for 2 Hrs**
7	**Drop Test (Packaged)**	<table><tr><th>Packing Weight (Kg)</th><th>Drop Height (cm)</th></tr><tr><td>0 ~ 45.4</td><td>122</td></tr><tr><td>45.4 ~ 90.8</td><td>76</td></tr><tr><td>90.8 ~ 454</td><td>61</td></tr><tr><td>Over 454</td><td>46</td></tr></table> **Drop direction :※1 corner / 3 edges / 6 sides each 1times**

5. PRECAUTION RELATING PRODUCT HANDLING

5.1 SAFETY

5.1.1   If the LCD panel breaks , be careful not to get the liquid crystal to touch your skin.

5.1.2   If the liquid crystal touches your skin or clothes , please wash it off immediately by using soap and water.

5.2 HANDLING

5.2.1   Avoid any strong mechanical shock which can break the glass.

5.2.2   Avoid static electricity which can damage the CMOS LSI—When working with the module , be sure to ground your body and any electrical equipment you may be using.

5.2.3   Do not remove the panel or frame from the module.

5.2.4   The polarizing plate of the display is very fragile. So , please handle it very carefully ,do not touch , push or rub the exposed polarizing with anything harder than an HB pencil lead (glass , tweezers , etc.)

5.2.5   Do not wipe the polarizing plate with a dry cloth , as it may easily scratch the surface of plate.

5.2.6   Do not touch the display area with bare hands , this will stain the display area.

5.2.7   Do not use ketonics solvent & aromatic solvent. Use with a soft cloth soaked with a cleaning naphtha solvent.

5.2.8   To control temperature and time of soldering is 320±10℃ and 3-5 sec.

5.2.9   To avoid liquid (include organic solvent) stained on LCM .

5.3 STORAGE

5.3.1   Store the panel or module in a dark place where the temperature is 25℃ ±5℃ and the humidity is below 65% RH.

5.3.2   Do not place the module near organics solvents or corrosive gases.

5.3.3   Do not crush , shake , or jolt the module.

5.4 TERMS OF WARRANTY

5.4.1   Applicable warrant period

The period is within thirteen months since the date of shipping out under normal using and storage conditions.

5.4.2   Unaccepted responsibility

This product has been manufactured to your company's specification as a part for use in your company's general electronic products. It is guaranteed to perform according to delivery specifications. For any other use apart from general electronic equipment , we cannot take responsibility if the product is used in nuclear power control equipment , aerospace equipment , fire and security systems or any other applications in which there is a direct risk to human life and where extremely high levels of reliability are required.

NOTES:
1.LCD TYPE: TFT LCD
2.LCD DISPLAY: POSITIVE/TRANSMISSIVE
3.VIEW DIRECTION: 6 O'CLOCK
4.The tolerance unless classified ±0.3mm
5.Manufacturer/Type :Starconn/300E40-0010RA-G3
6.Mating Receptacle/Type (Reference) :111B40-1211TA-G3 OR EQUIVALENT.
7.PJ1:KD-014-L(DC JACK2.0mm ROHS) OR EQUIVALENT.
8.J1 :ETC-HMAR5161OU019S-3440N-7RM4-GP OR EQUIVALENT.
9.J2 :OUPIIN-8971-B05G00DPT OR EQUIVALENT.

1280(R,G,B)X800 DOTS

VIEWING DIRECTION

BLACK

007						
006						
005						
004	MODIFY DRAWING	Kevin	2017/05/24			
003	MODIFY DRAWING	Kevin	2017/05/18			
002	MODIFY DRAWING	Kevin	2017/03/10			
001	NEW DRAWING	Kevin	2017/02/21			
REV	REV BY	REVISER	DATE			

PART NO:
PH128800T004-ZFC

DRAWING NAME :
LMD-PH128800T004-ZFC

TITLE:
LCD MODULE DRAWING

大正光電股份有限公司
POWERTIP TECHNOLOGY CORPORATION

	Design	Check	Approve	Page	Scale	Unit	Surface	Material	Thickness	Quantity	Precision Level
	Kevin	Stone	Oliver	1/1	1:1	MM					

Length(MM)	Tolerance/Position (mm)	Precision Level
1 ~ 4	4	-
4 ~ 16	16	-
16 ~ 63	63	-
63 ~ 250	250	-
250 ~ 1000	1000	-

1.包裝材料規格表 (Packaging Material) : (per carton)

No.	Item	Model	Dimensions (mm)	1Pcs Weight	Quantity	Total Weight
1	成品 (LCD)	PH128800T004-ZFC	254.96 X 173.6	0.4587	8	3.6696
2	多層薄膜(1)POF	OTFILM0BA03ABA	————	——	4	——
3	TRAY 盤 (2)Tray	TY00000000425	352 X 260 X 35.8	0.15	12	1.8
4	內盒(3)Product Box	BX38327211AABA	383 X 272 X 110	0.25	4	1.0
5	保利龍板(4)Polylon board	OTPLB00PL08ABA	550 X 393 X 20	0.0284	2	0.0568
6	外紙箱(5)Carton	BX57041027CCBA	570 X 410 X 265	1.4208	1	1.4208
7	舒美墊(6)EPE	FOAM000000047	350 X 255 X 5	0.011	8	0.088
8						
9						

2.一 整箱總重量 (Total LCD Weight in carton) :　8.04　Kg±10%

3.單箱數量規格表 (Packaging Specifications and Quantity) :

　(1)LCD quantity per box : no per tray　　1　x no of tray　　2　=　2

　(2)Total LCD quantity in carton : quantity per box　2　x no of boxes　4　=　8

Use empty tray
空 盤

+

Put products into the tray

⇩

Tray stacking

A

B

(1)多層薄膜 POF

(2)TRAY 盤 Tray

(6)舒美墊 EPE

(6)舒美墊 EPE

(3)內盒 Product Box

(4)保利龍板 Polylon board

(4)保利龍板 Polylon board

⇩

(5)外紙箱 Carton

C/ML
POWERTIP

特　記　事　項 (REMARK)

A

斜角　　　Detail B

圓角　　　Tray 2
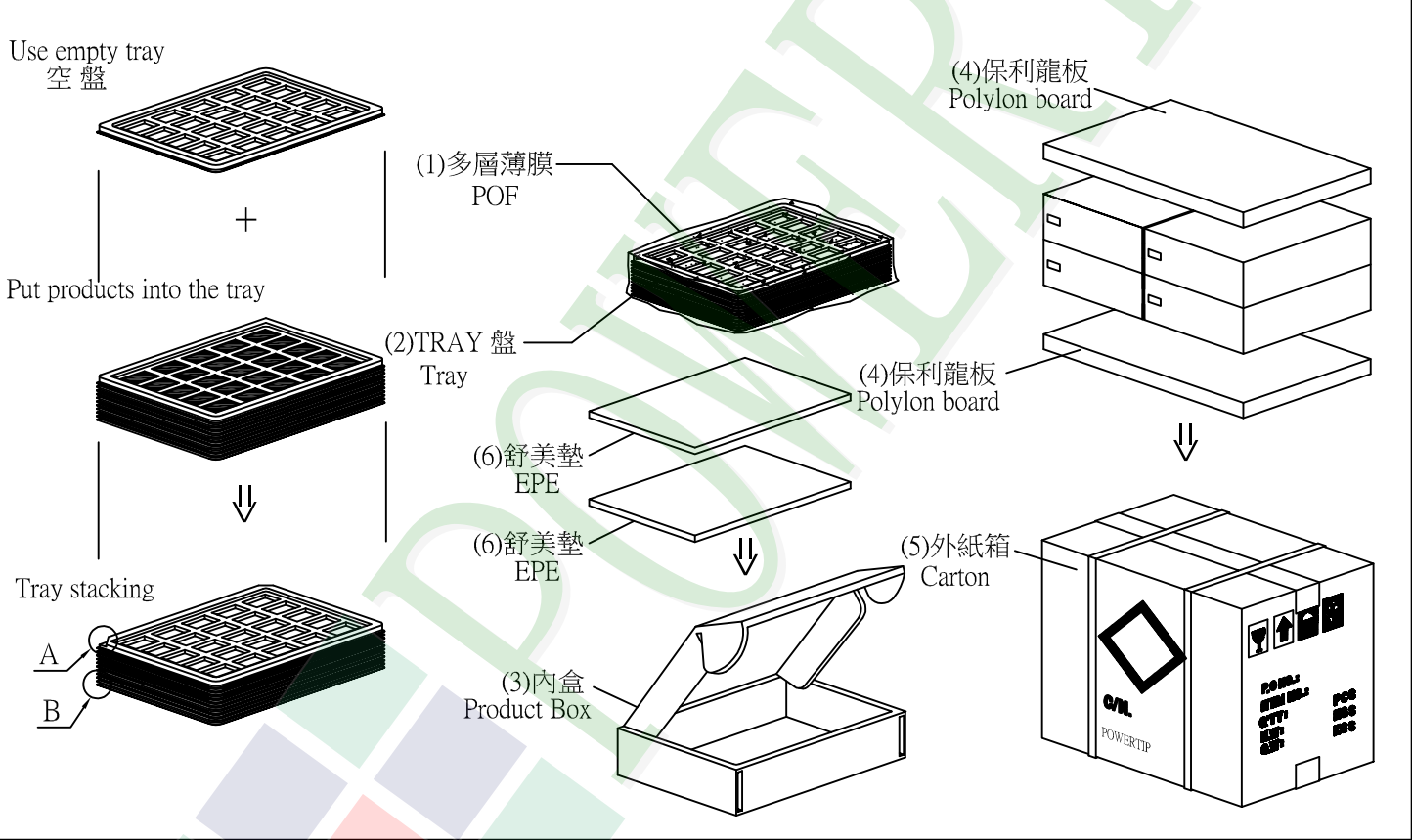
Tray 1

4. TRAY盤相疊時,需旋轉180度,請詳見B視圖
　Rotate tray 180 degrees and place on top of stack.
　Check the tray stack using Fig. B.

POWERTIP TECH. CORP.