



File Name	Specification For 8.14" EPD	Module Number	T0814A01
Version	A0	Pge Number	1 of 42

Specification for 8.14"EPD

Model NO.: T0814A01

Product VER: A0

Customer Approval

Customer	
Approval By	
Date Of Approval	

It will be agreed by the receiver, if not sign back the Specification within 15days.

Prepared By	Checked By	Approval By
周涛涛	李思	王浩



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Version	Content	Date	Producer
A0	New release	2026/6/27	Leslie



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1. General Description

T0814A01 is a reflective electrophoretic E Ink® Spectra™ 6 technology display module on an active matrix TFT substrate. The panel is capable of displaying black, white, yellow, red, green and blue images depending on the associated lookup table used. The circuitry on the panel includes an integrated gate and source driver, timing controller, oscillator, DC-DC boost circuit, and memory to store the frame buffer and lookup tables, and additional circuitry to control VCOM and BORDER settings.

2. Features

- Highlight Red, Yellow, Green and Blue color
- High contrast
- High reflectance
- Ultra wide viewing angle
- Ultra low power consumption
- Pure reflective mode
- Bi-stable
- Antiglare hard-coated front-surface
- Low current deep sleep mode
- On chip display RAM
- Waveform stored in On-chip OTP
- Serial peripheral interface available
- On-chip oscillator
- On-chip booster and regulator control for generating VCOM, Gate and source driving voltage
- I2C Signal Master Interface to read external temperature sensor
- Available in COG package



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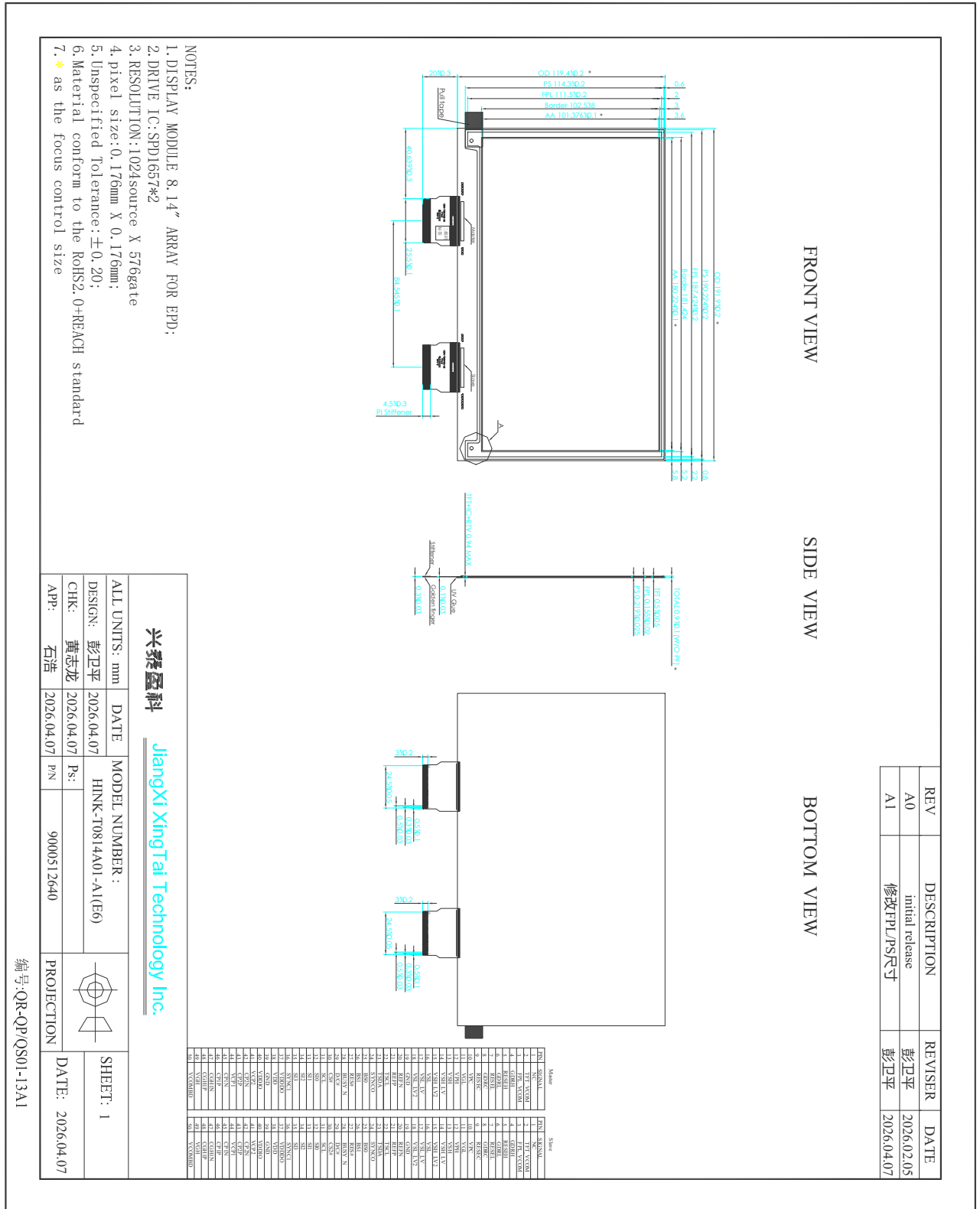
3. General Specifications

Parameter	Specifications	Unit	Remark
Screen Size	8.14	Inch	
Display Resolution	1024 (H) × 576 (V)	Pixel	PPI: 144
Active Area	180.22 (H) × 101.38 (V)	mm	
Pixel Pitch	0.176 × 0.176	mm	Square
Outline Dimension	191.9 (H) × 119.4 (V) × TBD (D)	mm	Without masking film
Module Weight	TBD	g	



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4. Mechanical Drawing of EPD module





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5. Input / Output Interface

5-1) Connector type: FH34SRJ-50S-0.5SH(50)

Master Pin Assignment			
Pin #	Type	Single	Description
1		NC	No connection and do not connect with other NC pins
2	P	TFT_VCOM	TFT_VCOM driving voltage
3	P	FPL_VCOM	FPL_VCOM driving voltage
4	I/O	GDRH	N-Channel MOSFET Gate Drive Control
5	I/O	RESEH	Current Sense Input for the Control Loop
6		GDRL	Reserved
7		RESEL	Ground. Connect to GND
8		GDRC	P-Channel MOSFET Gate Drive Control
9		RESEC	Current Sense Input for the Control loop
10	P	VPC	VPC driving voltage
11	P	VGL	Negative Gate driving voltage
12	P	VPH	VPH driving voltage
13	P	VSH	Positive Source driving voltage
14	P	VSH_LV	Positive Source driving voltage
15	P	VSH_LV2	Positive Source driving voltage



File Name	Specification For 8.14" EPD		Module Number	T0814A01
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16	P	VSL	Negative Source driving voltage	
17	P	VSL_LV	Negative Source driving voltage	
18	P	VSL_LV2	Negative Source driving voltage	
19	P	GNDA	Ground ; Connect to GND	
20	P	REFN	Reserved	
21	P	REFP	Reserved	
22	O	TSCL	I2C Interface to digital temperature sensor Clock pin	
23	I/O	TSDA	I2C Interface to digital temperature sensor Data pin	
24	I/O	SYNCO	Synchronous signal to slave chip	
25	I	BS0	Bus selection pin; L: 4-wire IF. H: 3-wire IF. (Default)	
26	I	BS1	Reserved; Bus selection pin. L: refer to BS0(Default)	
27	I	RES#	Reset	
28	O	BUSY_N	Busy state output pin	
29	I	D/C#	Data /Command control pin	
30	I	CS#	Chip Select input pin(CSB)	
31	I	SCL	serial clock pin (SPI)	
32	I/O	SI0	serial data pin (SPI)	
33	I/O	SI1	serial data pin ; Reserved	



File Name	Specification For 8.14" EPD		Module Number	T0814A01
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34	I/O	SI2	serial data pin ; Reserved	
35	I/O	SI3	serial data pin ; Reserved	
36	I/O	SYNC1	Synchronous signal to slave chip	
37	P	VDDDO	Core logic power pin; Connect to VDDD	
38	P	VDD	Supply voltage	
39	P	GND	Ground; Connect to GNDA	
40	P	VDDIO	Supply voltage	
41	P	VCP2	Charge Pump Pin	
42	P	CP2N	Charge Pump Pin	
43	P	CP2P	Charge Pump Pin	
44	P	VCP1	Charge Pump Pin	
45	P	CP1N	Charge Pump Pin	
46	P	CP1P	Charge Pump Pin	
47		CGH1N	Charge Pump Pin; Reserved	
48		CGH1P	Charge Pump Pin; Reserved	
49	P	VGH	Positive Gate driving voltage	
50	P	VCOMBD	VCOMBD driving voltage	



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Slave Pin Assignment

Pin #	Type	Single	Description
1		NC	No connection and do not connect with other NC pins
2	P	TFT_VCOM	TFT_VCOM driving voltage
3	P	FPL_VCOM	FPL_VCOM driving voltage
4	I/O	GDRH	Reserved
5	I/O	RESEH	Connect to GND
6		GDRL	Reserved
7		RESEL	Connect to GND
8		GDRC	Reserved
9		RESEC	Connect to GND
10	P	VPC	VPC driving voltage
11	P	VGL	Negative Gate driving voltage
12	P	VPH	VPH driving voltage
13	P	VSH	Positive Source driving voltage
14	P	VSH_LV	Positive Source driving voltage
15	P	VSH_LV2	Positive Source driving voltage
16	P	VSL	Negative Source driving voltage



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17	P	VSL_LV	Negative Source driving voltage	
18	P	VSL_LV2	Negative Source driving voltage	
19	P	GNDA	Ground ; Connect to GND	
20	P	REFN	Reserved	
21	P	REFP	Reserved	
22	O	TSCL	I2C Interface to digital temperature sensor Clock pin	
23	I/O	TSDA	I2C Interface to digital temperature sensor Data pin	
24	I/O	SYNCO	Synchronous signal to master chip	
25	I	BS0	Bus selection pin; L: 4-wire IF. H: 3-wire IF. (Default)	
26	I	BS1	Reserved; Bus selection pin. L: refer to BS0(Default)	
27	I	RES#	Reset	
28	O	BUSY_N	Busy state output pin	
29	I	D/C#	Data /Command control pin	
30	I	CS2#	Chip Select input pin(CSB)	
31	I	SCL	serial clock pin (SPI)	
39	P	GND	Ground; Connect to GNDA	
40	P	VDDIO	Supply voltage	
41	P	VCP2	Reserved	



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42	P	CP2N	Reserved	
46	P	CP1P	Reserved	
47		CGH1N	Reserved	
48		CGH1P	Reserved	
49	P	VGH	Positive Gate driving voltage	

Notes for Interface

Note 5-1: This pin (CS#) is the chip select input connecting to the MCU. The chip is enabled for MCU communication only when CS# is pulled Low.

Note 5-2: This pin (D/C#) is Data/Command control pin connecting to the MCU. When the pin is pulled HIGH, the data will be interpreted as data. When the pin is pulled Low, the data will be interpreted as command

Note 5-3: This pin (RES#) is reset signal input. The Reset is active Low.

Note 5-4: This pin (BUSY_N) is Busy state output pin. When Busy is low, the operation of chip should not be interrupted and any commands should not be issued to the module. The driver IC will put Busy pin low when the driver IC is working such as:

- Outputting display waveform;
- Programming with OTP
- Communicating with digital temperature sensor

Note 5-5: This pin (BS0) is for 3-line SPI or 4-line SPI selection. When it is "Low", 4-line SPI is selected. When it is "High", 3-line SPI (9 bits SPI) is selected.

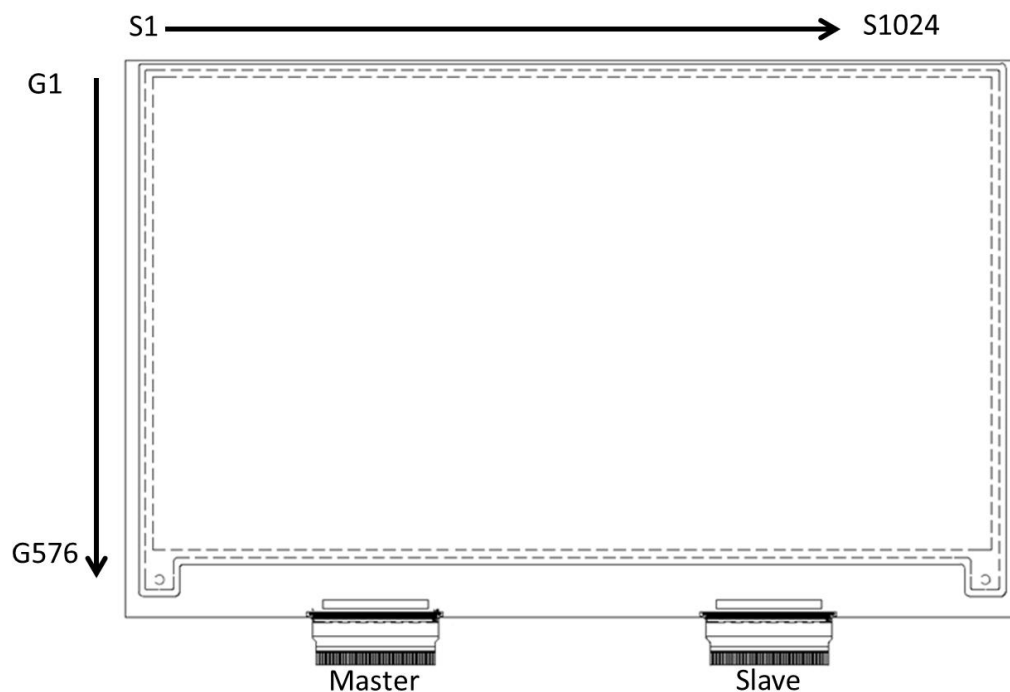


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Table: Bus interface selection

BS0	MPU Interface
L	4-lines serial peripheral interface (SPI)
H	3-lines serial peripheral interface (SPI) – 9 bits SPI

5-2) Panel Scan direction





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6. Command Table

W/R: 0: Write cycle 1: Read cycle C/D: 0: Command 1: Data D7~D0: -: Don't care

No.	Command	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0	Registers	Setting
1	Power OFF	0	0	0	0	0	0	0	0	1	0	02h	
		1	0	0	0	0	0	0	0	0	0	00h	
2	Power ON	0	0	0	0	0	0	0	1	0	0	04h	
3	Deep Sleep	0	0	0	0	0	0	0	1	1	1	07h	
		1	1	0	1	0	0	1	0	0	1	A5h	
4	Data Start transmission	0	0	0	0	0	1	0	0	0	0	10h	
		1	#	#	#	#	#	#	#	#	#	--	
5	Data Refresh	0	0	0	0	0	1	0	0	1	0	12h	
		1	0	0	0	0	0	0	0	0	1	01h	

Detailed Command Definition

(1) Power OFF (R02H)

Action	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0
Power OFF	0	0	0	0	0	0	0	0	1	0
Parameter	1	0	0	0	0	0	0	0	0	0



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(2) Power ON (R04H)

Action	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0
Power ON	0	0	0	0	0	0	0	1	0	0

(3) Deep Sleep (R07H)

Action	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0
Deep Sleep	0	0	0	0	0	0	0	1	1	1
Parameter	1	1	0	1	0	0	1	0	0	1

Remark: To Exit Deep Sleep mode, User required to send HWRESET to the driver.

Action	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0
Data Start transmission	0	0	0	0	0	1	0	0	0	0
Data	1	#	#	#	#	#	#	#	#	#

(4) Data Start transmission (R10H)

After this command, data entries will be written into the RAM until another command is written.

(5) Data Refresh (R12H)

Action	W/R	C/D	D7	D6	D5	D4	D3	D2	D1	D0
Data Refresh	0	0	0	0	0	0	0	0	1	0
Parameter	1	0	0	0	0	0	0	0	0	0

When this command is received. IC will start the refresh process. BUSY_N will become "0". After the refresh process is finished, BUSY_N will become "1".



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7. Electrical Characteristics

7-1 Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Analog power	VDD	-0.5 to +3.6	V
Operating Temp. range	TOPR	0 to +50	°C
Storage Temp. range	TSTG	-25 to +60	°C

Note: Maximum ratings are those values beyond which damages to the device may occur. Functional operation should be restricted to the limits in the Electrical Characteristics chapter.



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7-2 Display Module DC characteristics

Symbol	Parameter	Conditions	MIN.	TYP.	MAX.	Unit
VDD	Logic supply voltage	—	2.5	3.0	3.6	V
VGH	Positive gate driving voltage	—	19	20.0	21.0	V
VGL	Negative gate driving voltage	—	-21.0	-20.0	-19.0	V
VSH	Positive source driving voltage	—	14.5	15.0	15.5	V
VSL	Negative source driving voltage	—	-15.5	-15.0	-14.5	V
VCOM_DC	VCOM_DC output voltage	—	-4.0	Adjusted	-0.3	V
VCOM_AC	VCOM_AC output voltage	—	VSL+VCOM_DC	VCOM_DC	VSH+VCOM_DC	V
VIL	Low level input voltage	Digital input pins	—	—	0.2VDD	V
VIH	High level input voltage	Digital input pins	0.8VDD	—	—	V
VOH	High level output voltage	Digital output pins, IOH=8mA	0.8VDD	—	—	V
VOL	Low level output voltage	Digital output pins, IOL=8mA	—	—	0.2VDD	V
IMSTB	Module Stand-by current	Shut-down	—	TBD	—	uA
Ixc	Inrush Current	Booster on	—	TBD	TBD	mA



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Ipc	Driving Peak Current	TYP Loading Pattern	–	TBD	TBD	mA
Ipc	Driving Peak Current	High Loading Pattern	–	TBD	TBD	mA
IMOPR	Module Operating Current	TYP Loading Pattern	–	TBD	TBD	mA
IMOPR	Module Operating Current	High Loading Pattern	–	TBD	TBD	mA
P	Operation Power Dissipation	TYP Loading Pattern, VDD=3.0V with DC-DC	–	TBD	TBD	mW
P	Operation Power Dissipation	High Loading Pattern, VDD=3.0V with DC-DC	–	TBD	TBD	mW
PSTBY	Standby Power Dissipation	VDD=3.0V	–	TBD	–	uW
IMDS	Module Deep Sleep Current	Deep sleep mode	–	TBD	–	uA

Test Condition: VDD = 3.0V, VDD_1.8 = 1.8V, TA = 25°C

Notes for DC Characteristics:

1. The Inrush Current means the inrush current occurs during dual booster on sequence, measured by Oscilloscope and extract Max value.
2. The Driving Peak Current means the peak current occurs during image update after dual booster on sequence, measured by Oscilloscope and extract Max value.
3. The Module Operating Current data is measured by Oscilloscope, extract Mean value.
4. Typical power consumption: transition full white → color pattern under 25C waveform (Note7-1)



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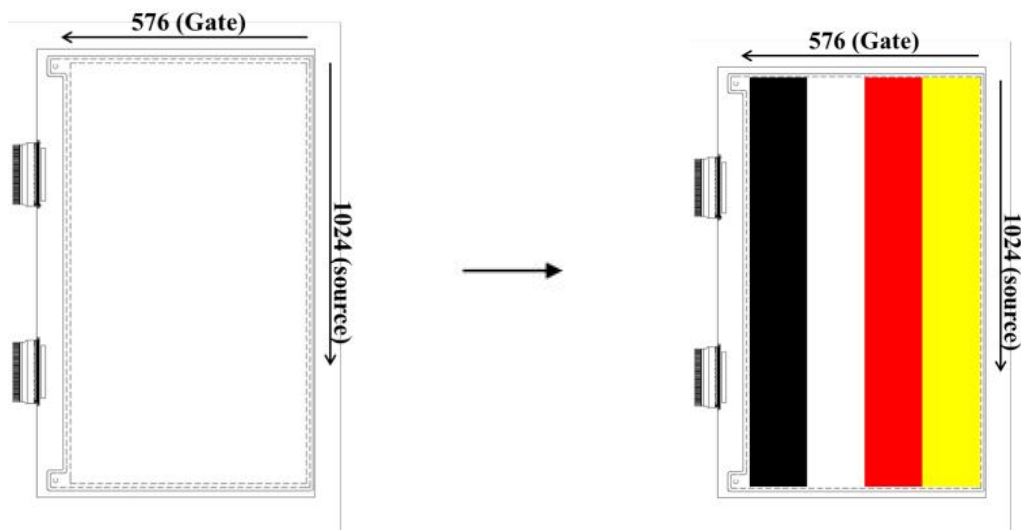
5. High loading power consumption: transition full white → noise pattern (6 random colors) (Note7-2)
6. Min VDD=2.5V only valid for typical pattern with stable power supply, not for high loading pattern.
7. Electrical & Optical specs only guaranteed with E Ink official controller & waveform.
8. Vcom value pre-programmed inside panel IC.



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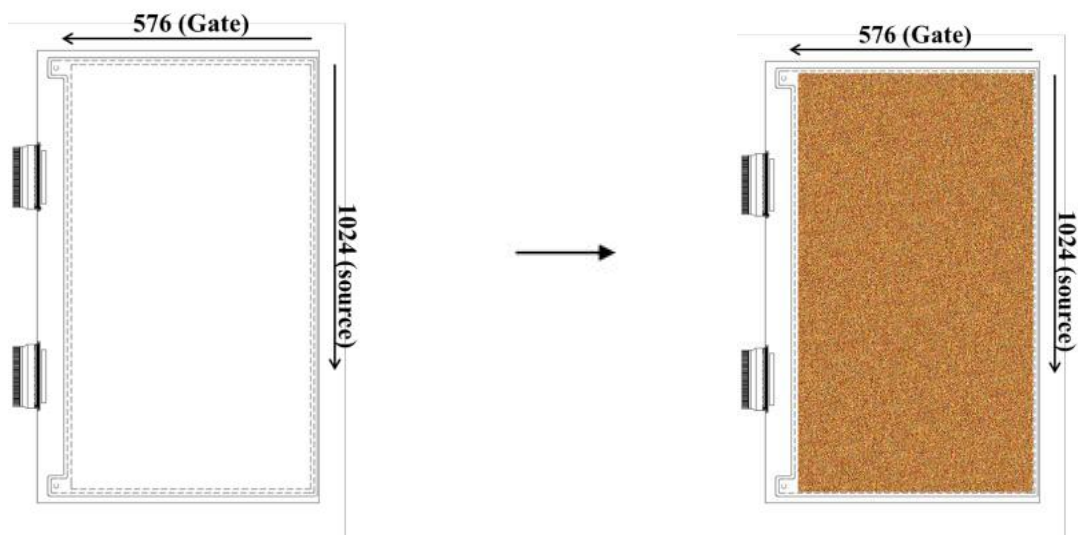
Note 7-1

The typical power consumption



Note 7-2

The high loading power consumption





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7-3 Panel AC Characteristics

7-3-1 MCU Interface Selection

BS0 pin config SPI mode:

- BS0 = L → 4-wire SPI
- BS0 = H → 3-wire SPI (9-bit)

Bus Mode	Data Pin	Clock Pin	CS#	D/C#	RES#
SPI4	SDIN	SCLK	CS#	D/C#	RES#
SPI3	SDIN	SCLK	CS#	Tie to GND	RES#

Table 7-1: MCU interface assignment under different bus interface mode

Note 7-3: L = GND;

Note7-4: H = VDD

7-3-1-2 MCU Serial Interface (4-wire SPI)

The 4-wire SPI consists of serial clock SCLK, serial data SDA, D/C#, CS#.

Function	CS#	D/C#	SCLK Edge
Write Command	L	L	Rising
Write data	L	H	Rising

Table 7-2: Control pins of 4-wire Serial Peripheral interface



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SDA is shifted into an 8-bit shiftregister in the order of D7, D6..D0. The data byte in the shiftregister is written to the Graphic Display Data RAM (RAM) or command register in the same clock. Under serial mode, only write operations are allowed.

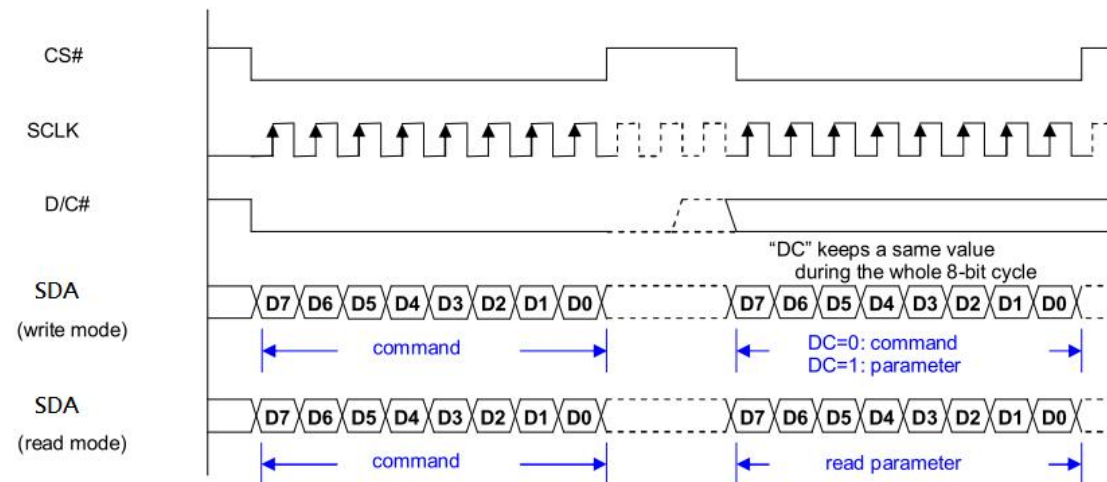


Figure 7-1: Write procedure in 4-wire Serial Peripheral Interface mode



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7-3-1-3 MCU Serial Interface (3-wire SPI)

The 3-wire serial interface consists of serial clock SCLK, serial data SDA and CS#.

In 3-wire SPI mode, the pin D/C# can be connected to an external ground.

The operation is similar to 4-wire serial interface while D/C# pin is not used. There are altogether 9-bits will be shifted into the shift register on every ninth clock in sequence: D/C# bit D7 to D0 bit. The D/C# bit (first bit of these sequential data) will determine the following data byte in shift register is written to the Display Data RAM (D/C# bit = 1) or the command register (D/C# bit = 0). Under serial mode, only write operations are allowed.

Function	CS#	D/C#	SCLK
Write Command	L	Tie LOW	↑
Write data	L	Tie LOW	↑

Table 7-3: Control pins of 3-wire Serial Peripheral Interface

Note 7-6: ↑ stands for rising edge of signal

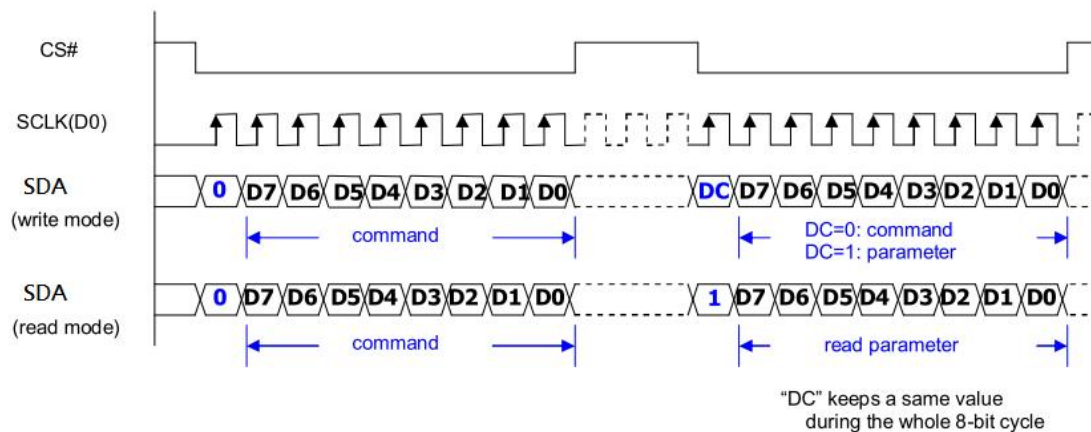


Figure 7-2: Write procedure in 3-wire Serial Peripheral Interface mode



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7-3-2 Timing Characteristics of Series Interface

适用条件: VDDIO - GND = 2.4V to 3.6V, TOPR = 25°C, CL=20pF

Serial Peripheral Interface Timing Characteristics

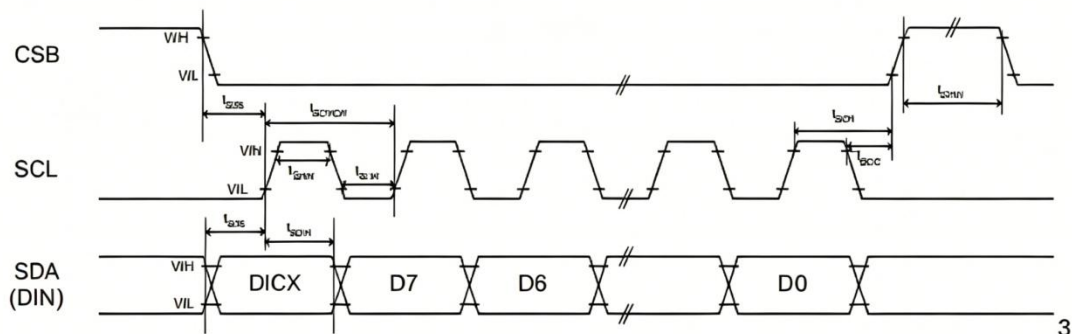
Symbol	Parameter	Min	Typ	Max	Unit
tcss	CSB select setup time	60	—	—	ns
tcsH	CSB select hold time	65	—	—	ns
tscc	CSB deselect setup time	20	—	—	ns
tchW	CSB deselect hold time	40	—	—	ns
tscycW	Serial clock cycle (Write)	50	—	—	ns
tshW	SCL "H" pulse width (Write)	25	—	—	ns
tsLW	SCL "L" pulse width (Write)	25	—	—	ns
tscycL	Serial clock cycle (Read)	150	—	—	ns
tshR	SCL "H" pulse width (Read)	60	—	—	ns
tsLR	SCL "L" pulse width (Read)	60	—	—	ns
tsds	Data setup time	30	—	—	ns
tsdh	Data hold time	30	—	—	ns
tacc	Access time	—	—	75	ns
toH	Output disable time	10	—	—	ns

Note: All timings are based on 20% to 80% of VDDIO-GND

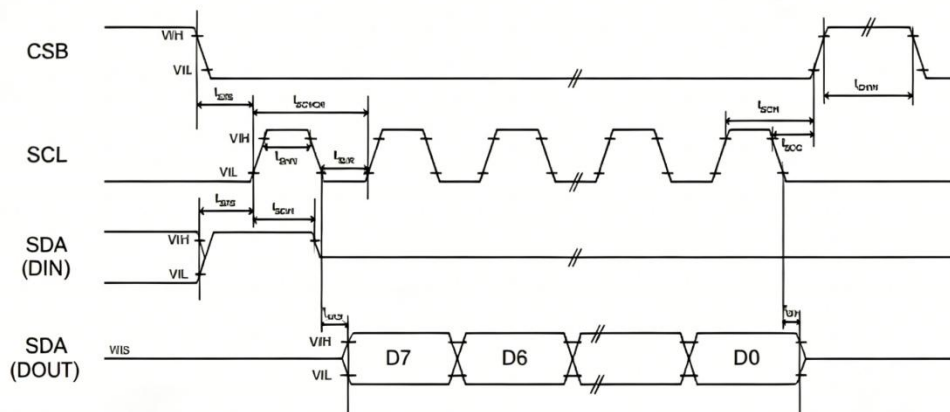


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3 pin serial interface characteristics (write mode)



3 pin serial interface characteristics (read mode)

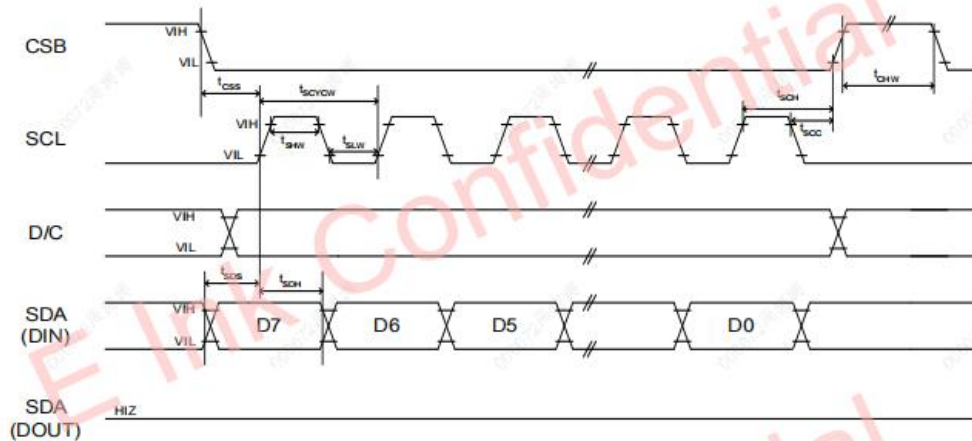


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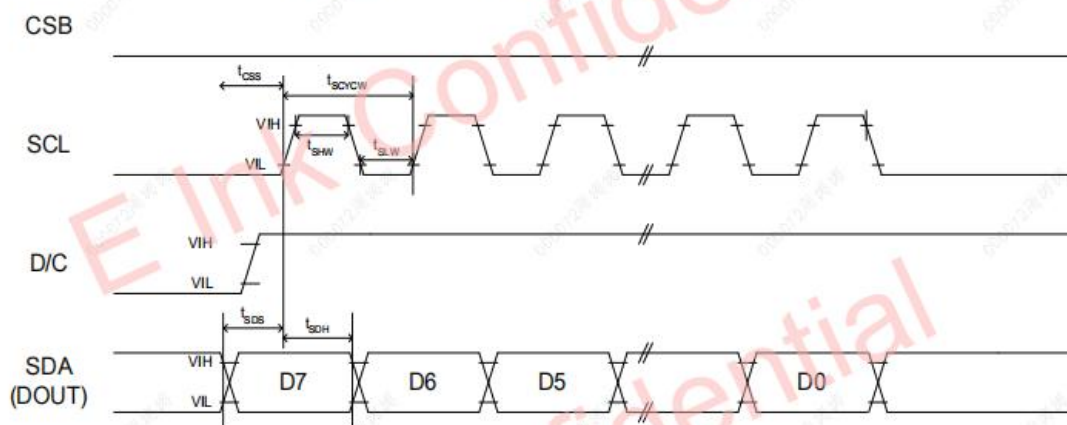


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4 pin serial interface characteristics (write mode)



4 pin serial interface characteristics (read mode)

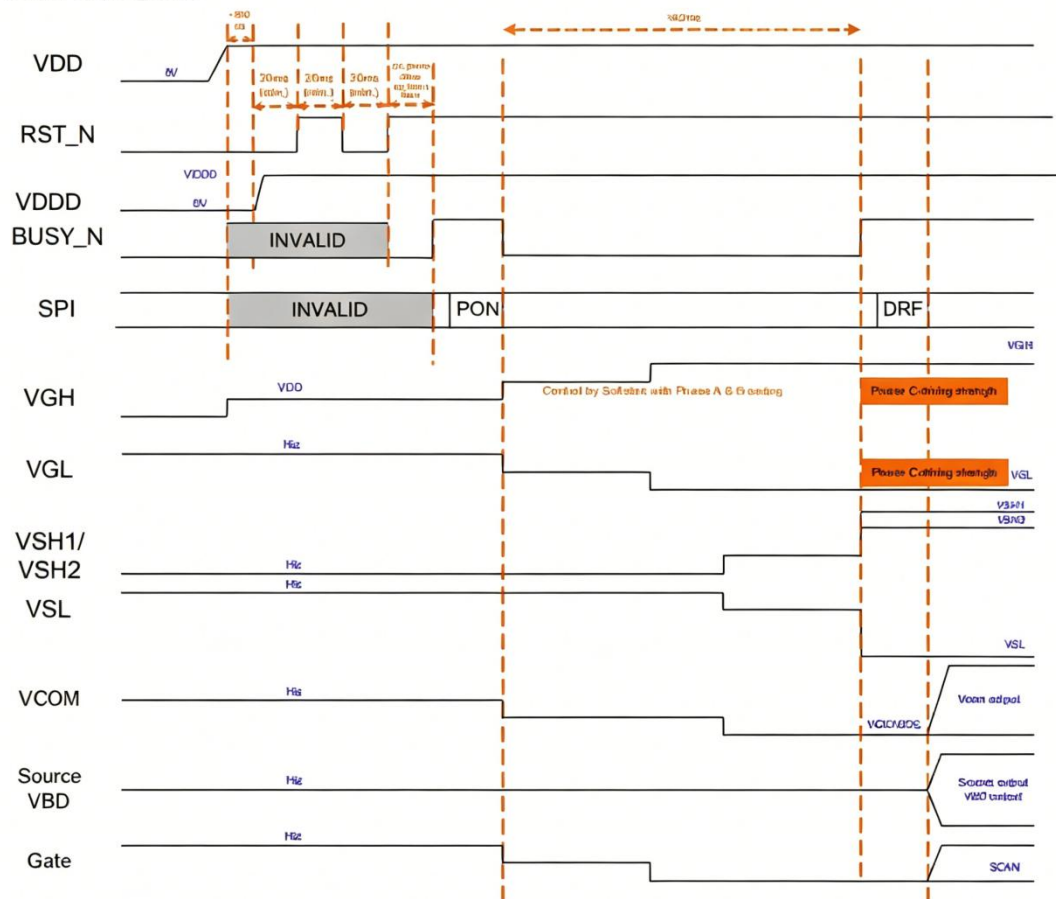




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7-3-3 Power On/Off Characteristics

Power ON Sequence

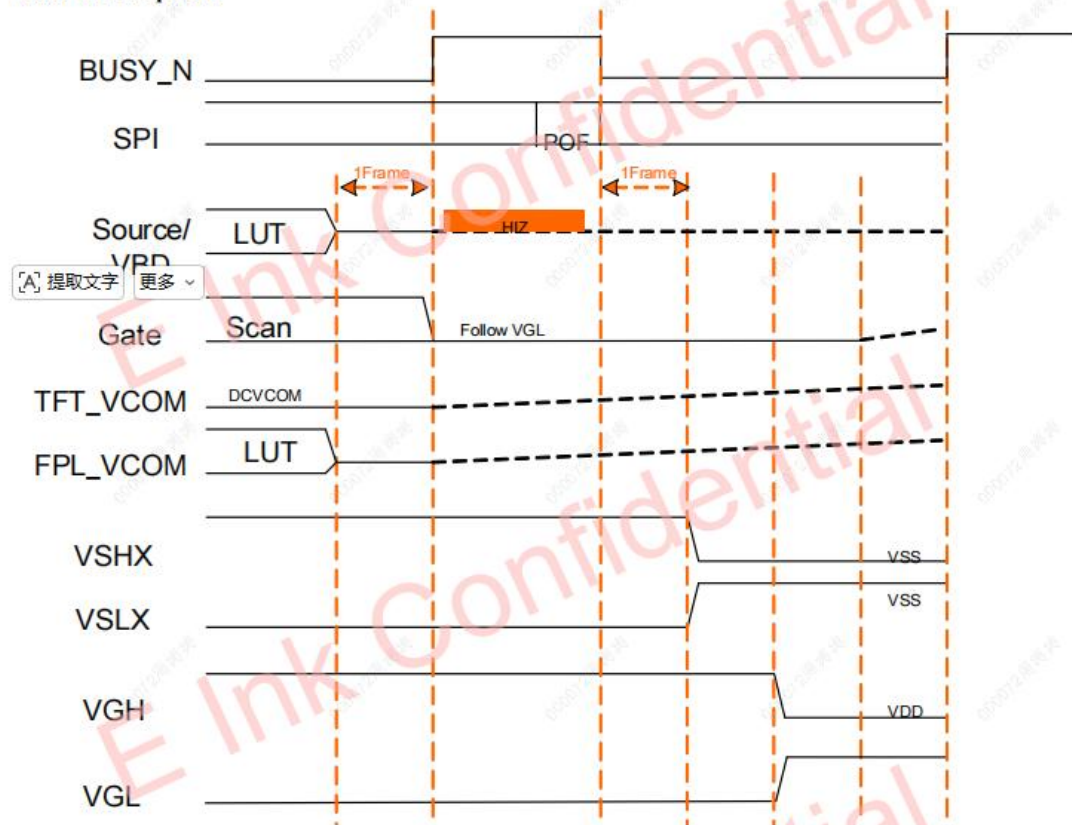


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Power OFF Sequence





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8. Optical Characteristics

8-1 Specifications

E6 (EPD) waveform tuning Optical standard												ΔE 2000
Temperature (℃)		0~4	5~9	10~14	15~19	20~24	25~29	30~34	35~39	40~44	45~50	
White state	TYP L*	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66	65	<5
	TYP a*	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	
	TYP b*	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	
Dark State	TYP L*	10	10	10	10	10	10	10	10	10	10	<5
	TYP a*	10	10	10	10	10	10	10	10	10	10	
	TYP b*	-13	-12	-12	-12	-12	-12	-12	-12	-12	-12	
Red State	TYP L*	29	29	29	29	29	29	29	29	29	29	<6
	TYP a*	39	40	40	40	41	41	40	40	40	40	
	TYP b*	29	30	30	30	30	30	30	30	30	30	
Yellow state	TYP L*	65	65	65	65	65	65	65	65	65	65	<5
	TYP a*	-12	-12	-12	-12	-12	-12	-12	-12	-12	-12	
	TYP b*	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	
Blue State	TYP L*	30	30	30	30	30	30	30	30	30	30	<6
	TYP a*	6	6	6	6	6	6	6	6	6	6	
	TYP b*	-40	-40	-40	-40	-39	-39	-39	-39	-39	-39	
Green State	TYP L*	34	34	34	34	35	35	35	35	33	33	<7
	TYP a*	-19	-23	-23	-23	-24	-24	-24	-24	-24	-23	
	TYP b*	7	7	7	7	7	7	7	7	7	7	
VF时间	min											
	max	60	55	45	35	30	30	30	30	30	30	

WS: White state, DS: Dark state, RS: Red state, YS: Yellow state, BS: Blue state, GS: Green state

Note 8-1 : Luminance meter : Eye - One Pro3 plus Spectrophotometer

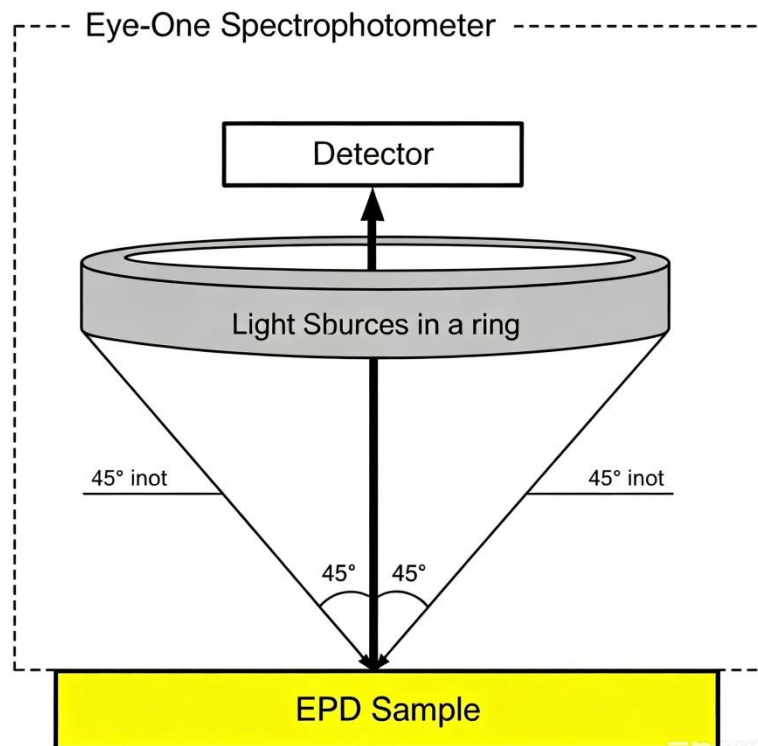
8-2) Definition of contrast ratio

The contrast ratio (CR) is the ratio between the reflectance in a full white area (R1) and the reflectance in a dark area (Rd):

$$CR=R1/Rd$$



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8-3) Reflection Ratio

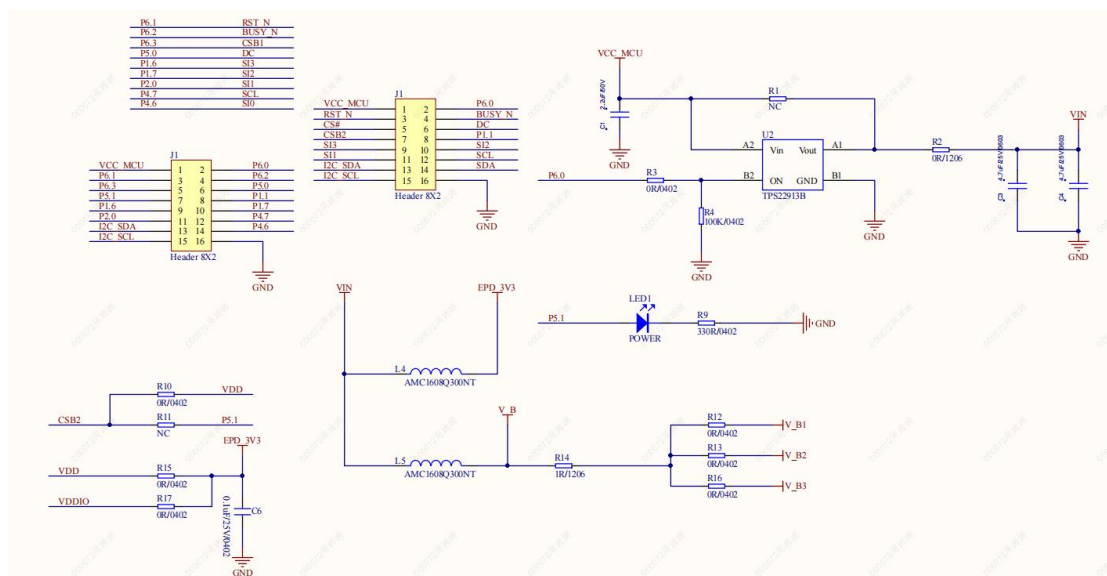
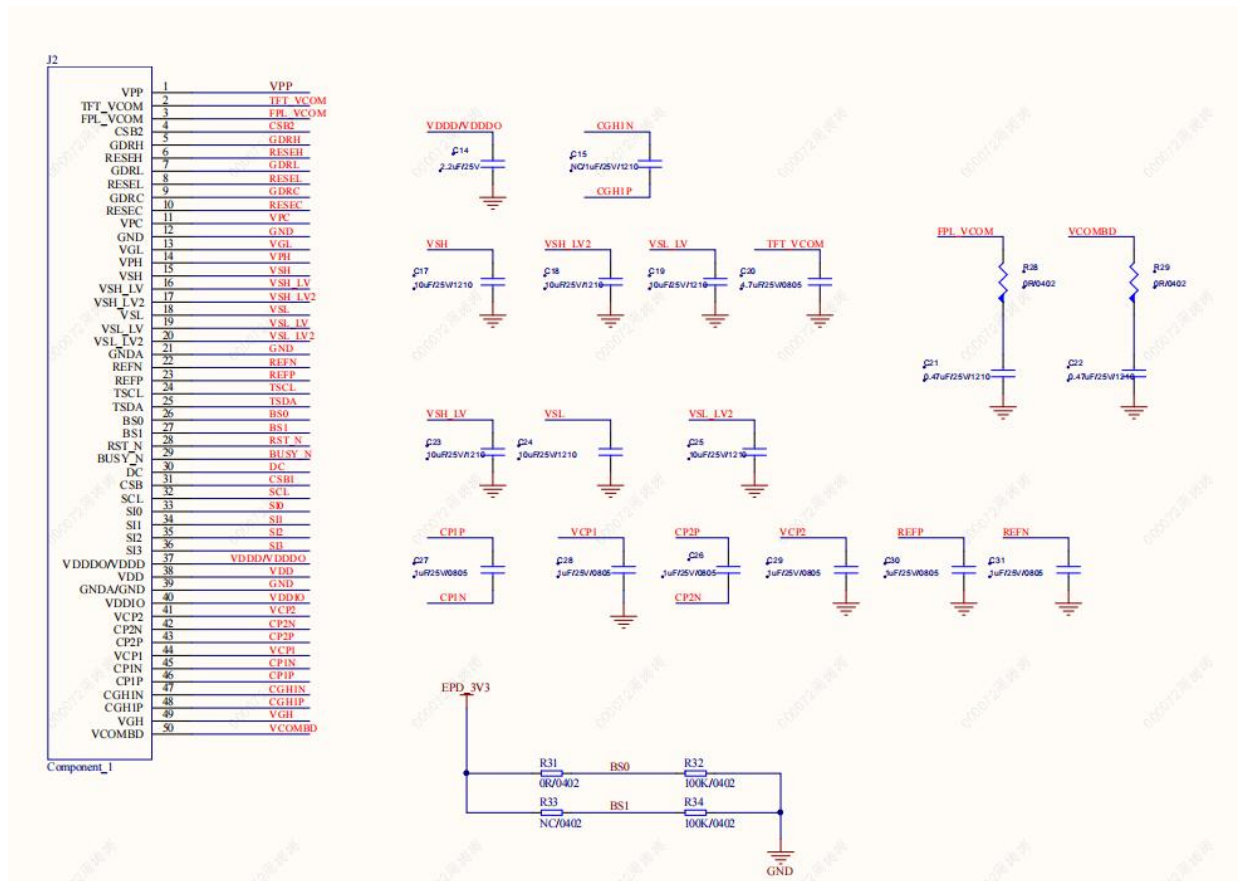
The reflection ratio is expressed as:

$R = \text{Reflectance Factor white board} \times (L_{\text{center}} / L_{\text{white board}})$
 L_{center} is the luminance measured at center in a white area ($R=G=B=1$).
 $L_{\text{white board}}$ is the luminance of a standard white board. Both are measured with equivalent illumination source. The viewing angle shall be no more than 2 degrees.



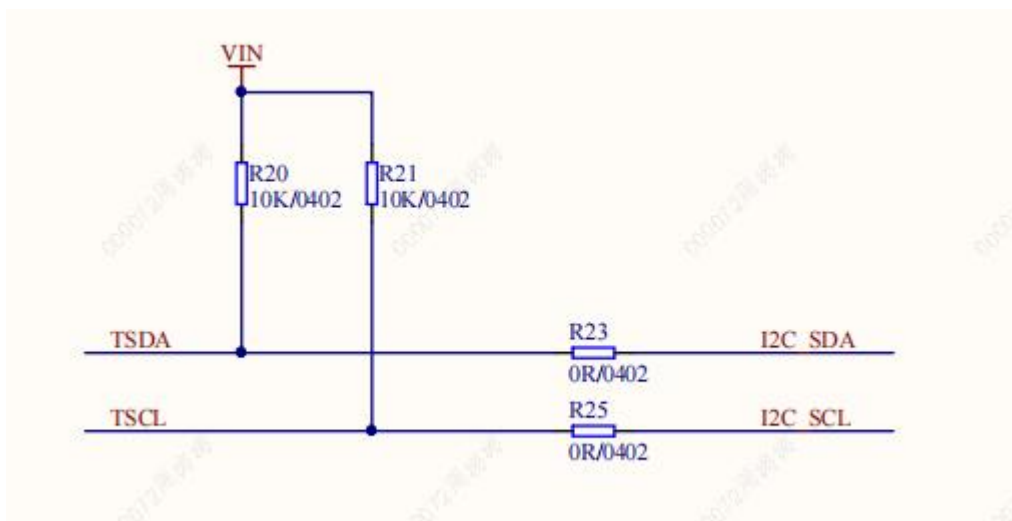
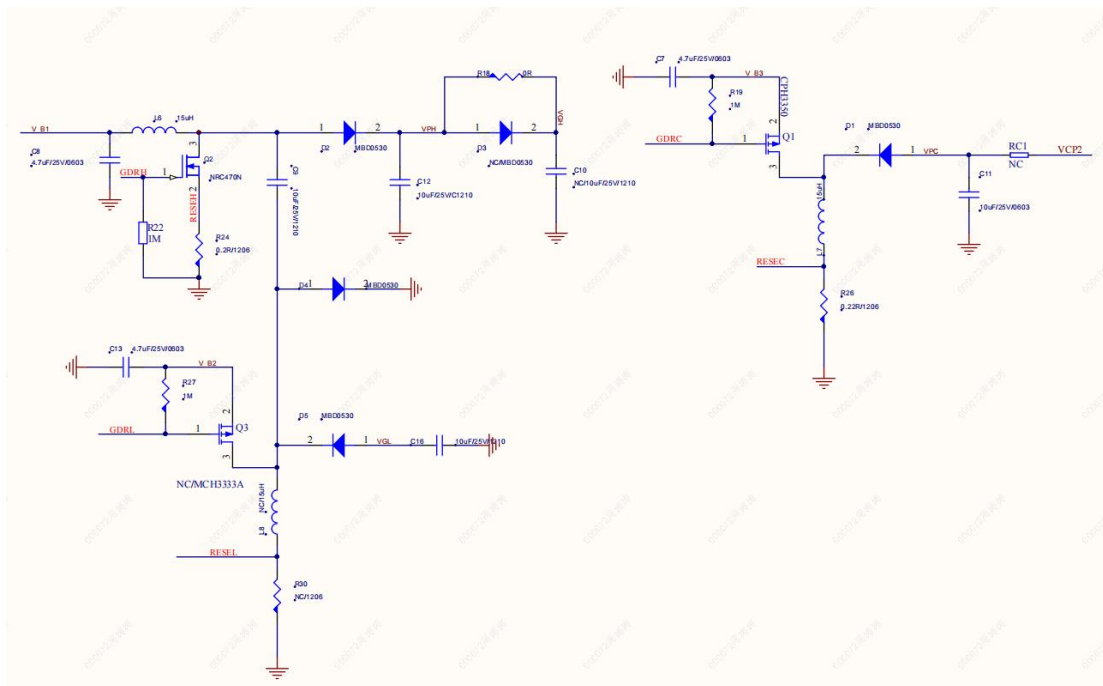
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9.Reference Circuit



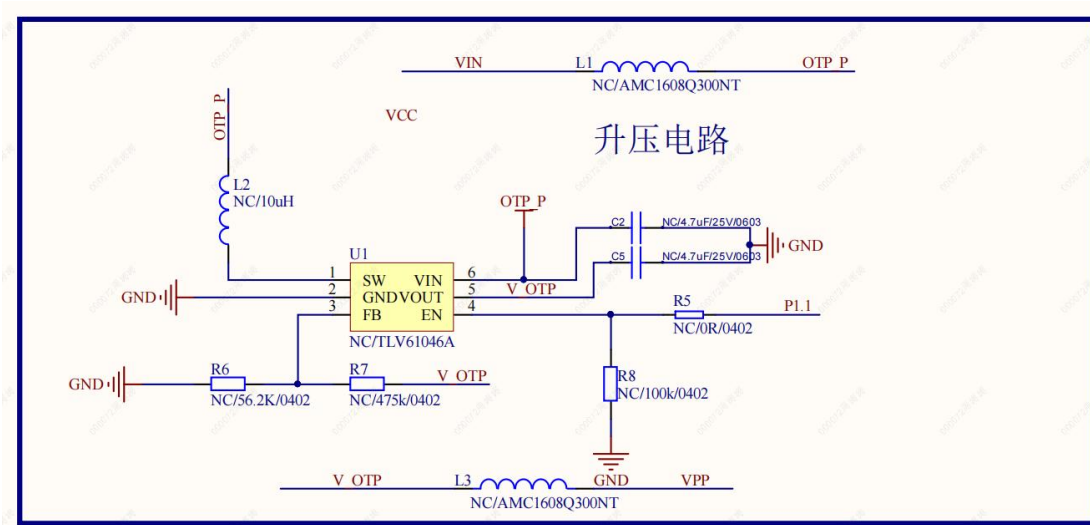


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元器件规格

Part Name	Value/Type
LED1	LED/H3216AG42AOC04/1206/黄绿色
LED1	LED/YY-KMTAYGJ03BDAL/1206/黄绿色
D1, D2, D4, D5	二极管/肖特基 MBR0530/封装 SOD-123/SMD
Q1	三极管/CPH3350/SOT-23/P-MOS
Q2	三极管/MOS/NTR4170NT1G/30V/SOT23-3
R2	电阻/RC1206FR-070RL/0R/1206/±1%
R26	电阻/RL1206FR-070R22L/0.22R/1206/±1%
R24	电阻/RL1206FR-070R2L/0.2R/1206/±1%
R14	电阻/RL1206FR-071RL/1R/1206/±1%
R9	电阻/330RΩ/±1%/0402/RC0402FR-07330RL
R4, R32, R34	电阻/WRO4X104JTL/100KΩ/±5%/0402/华新科
R18	电阻/RC0603JR-070RL/0Ω/±5%/100MIW/0603
R3, R11, R12, R13, R15, R16, R17, R23, R25, R28, R29, R31	电阻/RC0402FR-070RL/0R/±1%/0402/16W
R20, R21	电阻/RC0402JR-0710KL/10KΩ/±5%/0402
R19, R22, R27	电阻/1M/±5%/0603/RC0603-071ML
C6	电容/CL05A104KA5NNC/0402/100nF/X5R/25V
R45	电容/GRM155R61E104KA87D/C0402/100nF/25V
C11	电容/C1608X5R1E106MT000E/10uF/±20%/25V
C3, C4, C7, C8, C13	电容/C1608X5R1E475KT000E/4.7uF/25V/0603
C20	电容/CL21A475KAQNNNE/4.7uF/25V/0805/X5R
C26, C27, C28, C29, C30, C31	电容/CL21B105KAFNNNE/1uF/25V/0805/X7R
C9, C12, C16, C17, C18, C19, C23, C24, C25	电容/CL32B106KAJNNNE/±10%/1210
C21, C22	电容/1210B474K251CT/0.47uF/1210/X5R
R65, R72	电容/HCM1210X7R474K251PT/0.47uF/1210/X7R
C1, C14	电容/2.2uF/X5R/±10%/0603/CC0603KRX5R7BB225
L6, L7	电感/NRS5020T150MMGJ/15uH/±20%/4.9×4.9×2mm
L4, L5	电感/UPZ1608E300-5R0TF



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10.Handling, Safety and Environmental Requirements and

Remark

WARNING
The display glass may break when it is dropped or bumped on a hard surface. Handle with care. Should the display break, do not touch the electrophoretic material. In case of contact with electrophoretic material, wash with water and soap.

CAUTION
The display module should not be exposed to harmful gases, such as acid and alkali gases, which corrode electronic components.
Disassembling the display module can cause permanent damage and invalidate the warranty agreements.
IPA solvent can only be applied on active area and the back of a glass. For the rest part, it is not allowed.

Mounting Precautions
It' s recommended that you consider the mounting structure so that uneven force (ex. Twisted stress) is not applied to the module.
It' s recommended that you attach a transparent protective plate to the surface in order to protect the EPD. Transparent protective plate should have sufficient strength in order to resist external force.
You should adopt radiation structure to satisfy the temperature specification.
Acetic acid type and chlorine type materials for the cover case are not desirable because the former generates corrosive gas of attacking the PS at high temperature and the latter causes circuit break by electro-chemical reaction.
Do not touch, push or rub the exposed PS with glass, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment. Do not touch the surface of PS for bare hand or greasy cloth. (Some cosmetics deteriorate the PS)
When the surface becomes dusty, please wipe gently with absorbent cotton or other soft materials like chamois soaks with petroleum benzene. Normal-hexane is recommended for cleaning the adhesives used to attach the PS. Do not use acetone, toluene and alcohol because they cause chemical damage to the PS.
Wipe off saliva or water drops as soon as possible. Their long time contact with



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PS causes deformations and color fading.

Data Sheet Disclaimer Table

Product specification

This data sheet contains tentative product specifications subjected to changes without notice.

Limiting values

Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

Application information

Where application information is given, it is advisory and does not form part of the specification.



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11. Reliability Test

	TEST	CONDITION	REMARK
1	High Temperature Storage	T = 60°C35% RH, 240Hrs Test in White pattern	ongoing
2	Low Temperature Storage	T = -25°C, 240Hrs Test in White pattern	ongoing
3	High Temperature Operation	T = 50°C30% RH, 240Hrs 150s interval between updates	ongoing
4	Low Temperature Operation	T = 0°C, 240Hrs 150s interval between updates	ongoing
5	High-Temperature, High-Humidity Operation	T = +40°C, RH = 90%, 240Hrs 150s interval between updates	ongoing
6	High Temperature, High-Humidity Storage	T = 60°C 80% RH, 240Hrs Test in White pattern	ongoing
7	Heat Shock	-25°C(30 min) ~60°C(30 min) 50 cycle, 1Hr/cycle Test in White pattern	ongoing
8	Electrostatic Discharge	(Machine model) +/- 200V ; 0Ω, 200pF	ongoing

Actual EMC level to be measured on customer application.

Note:

1. The protective film must be removed before temperature test.
2. For operation test, image update interval time 150s

< Criteria >

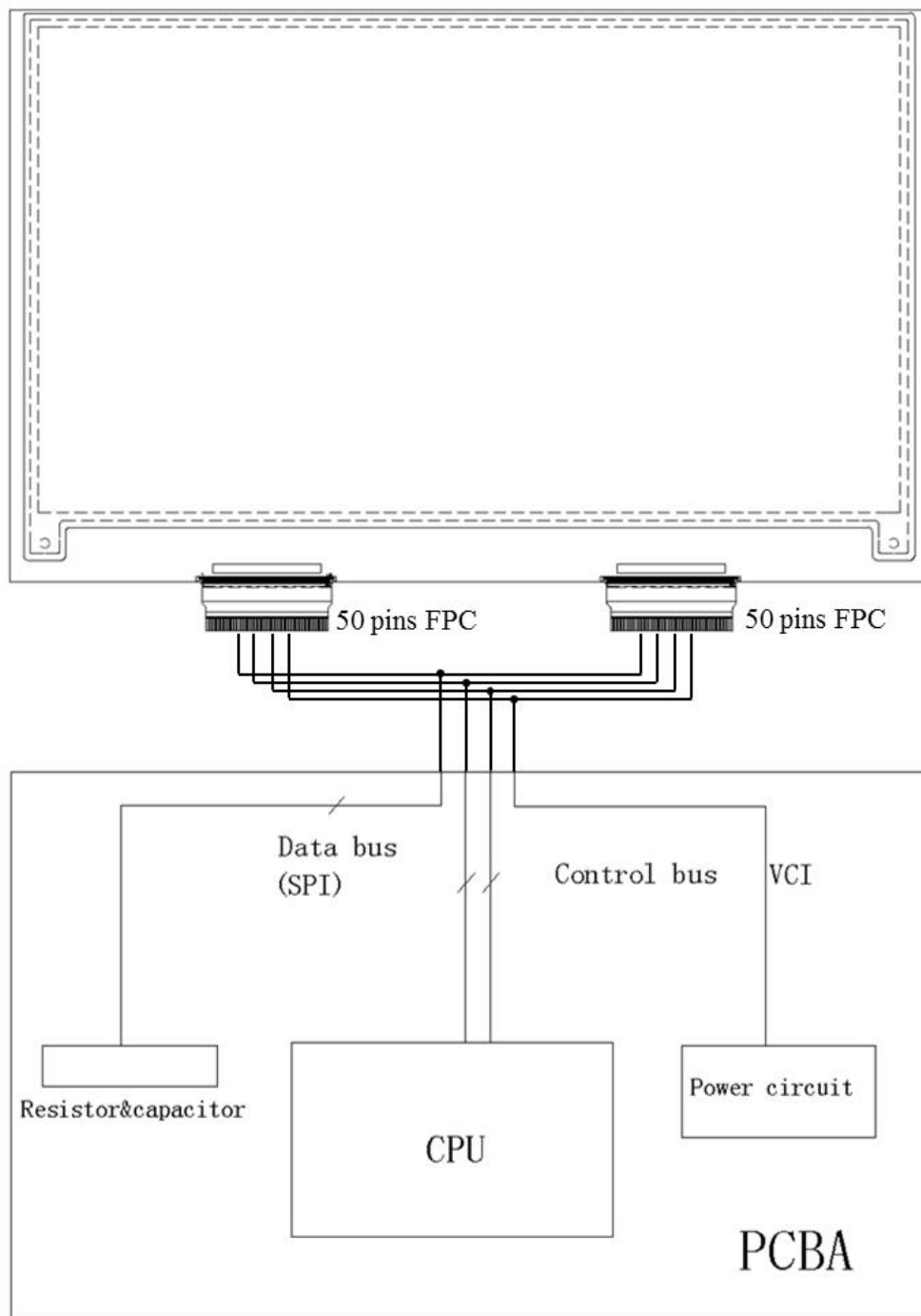
In the standard conditions, there is not display function NG issue occurred. All the cosmetic specification is judged before the reliability stress.

3. Reliability verification of new products is ongoing, and this reliability condition is not considered as a final reliability result



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12. Block Diagram





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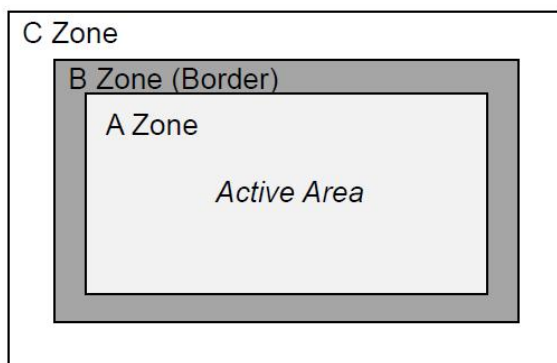
13. Shipment inspection specification

13.1 Zone Definition

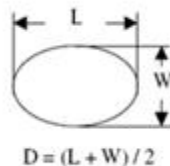
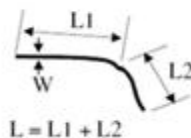
A Zone: Active Area

B Zone: Border Area

C Zone: From B Zone edge to panel edge



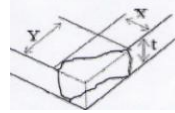
13.2 Line/Spot defect size





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13.3 Point and line standard

Shipment Inspection Standard						
Equipment: Electrical test fixture, Point gauge						
Outline dimension	208.8 (H) x 284.7 (V) x 0.85(D)	Unit: mm	Part-A	Active area	Part-B	Border area
Environment	Temperature	Humidity	illuminance	Distance	Time	Angle
	19℃~25℃	50±5%RH	1000~1500Lux	300 mm	35Sec	45°
Defect type	Inspection method	Standard		Part-A	Part-B	
Spot	Electric Display	D≤0.45 mm		Ignore	Ignore	
		0.45 mm<D≤0.52 mm		N≤10	Ignore	
		0.52 mm<D≤0.65 mm		N≤5	Ignore	
		D>0.65 mm		Not Allow	Ignore	
Display malfunction	Electric Display	Not Allow		Not Allow	Ignore	
Display error	Electric Display	Not Allow		Not Allow	Ignore	
Scratch or line defect(include dirt)	Visual/Film card	L≤2 mm, W≤0.2 mm		Ignore	Ignore	
		2.0mm<L≤10.0mm, 0.2<W≤0.5mm, DS>20mm		N≤8	Ignore	
		L>10.0 mm, W>0.5 mm		Not Allow	Ignore	
PS Bubble	Visual/Film card	D≤0.4mm		Ignore	Ignore	
		0.4mm≤D≤0.6mm, DS>10mm		N≤4	Ignore	
		D>0.6 mm		Not Allow	Ignore	
Corner /Edge chipping	Visual/Film card	It shall not affect the electrode circuit. The edge of the chipped corner shall be ≤ 8mm; The length X ≤ 8mm, the width Y ≤ 1mm. There shall be no cracks, and it shall not be an acute angle. And it shall not affect the electrode circuit. Only one such defect is allowed on each side.				
		 				
TFT warping	T≤5mm 					
Remark	1.Cannot be defect & failure cause by appearance defect;					
	2.Cannot be larger size cause by appearance defect;					
	L=long W=wide D=point size N=Defects NO					
Mura	Refer to limit samples defined by E-INK					



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13.4 Barcode



What is the QR code after picture being scanned and read? It consist of 30 numbers and letters, here is explanation for it.

QR Code: ABBBBBBBBBBFFCCCDDDEEEEGHIJKLL

- ① A means Factory code, e.g.: H (HINK)
- ② BBBBBBBBBB refers to product model name, which is in consistent with specification part number. E.g.: E0213A189 or E0266A120; when the total code is less than 9, it would be added suffix with **. e.g.: E027A45** or E0154A78*
- ③ FF means production workshop
- ④ CCC means date of production
- ⑤ DDD means production batch
- ⑥ EEEE means FPL lot
- ⑦ G means MP/Sample/Trial/Repair
- ⑧ HIJ:(H——TFT;I——PS;J——EC Glue)
- ⑨ KK means IC type
- ⑩ LL means serial number



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14. Packing

Full carton: 12 pcs tray with products and 1 pcs empty tray.

Last carton: less 12pcs tray with products and 1 pcs empty tray. The packager will add the right amount of EPE to box so that the added EPE's height approximately close to the EPE height around the inside of the box.

