

SPEC for Mass Production

Spec No.	CPD-365458AA-01 Rev.01
Date	June 24, 2026

TYPE: C0500WV65458-BN-AA

<5.0 inch transmissive color TFT with LED backlight>

CONTENTS

1. General description
2. Features
3. Mechanical specification
4. Mechanical dimension
5. Absolute maximum ratings
6. Electrical characteristics
7. Backlight characteristic
8. Interface signals
9. LVDS characteristics
10. Power on/off sequence
11. Electro-optical characteristics
12. Reliability
13. Inspection criteria
14. Label description
15. Packaging
16. RoHS compliant warranty
17. Precautions for use
18. Warranty



KYOCERA CORPORATION

This specification is subject to change without notice.
Consult Kyocera before ordering.

Original Issue Date	Designed by: Engineering dept.			Confirmed by: QA dept.
	Prepared	Checked	Approved	Approved
May 22, 2024	<i>K. Komurasaki</i>	<i>T. Masuda</i>	<i>I. Kawajiri</i>	<i>T. Sawada</i>

Warning

1. This Kyocera LCD module has been specifically designed for use only in electronic devices and industrial machines in the area of audio control, office automation, industrial control, home appliances, etc. The module should not be used in applications where the highest level of safety and reliability are required and module failure or malfunction of such module results in physical harm or loss of life, as well as enormous damage or loss. Such fields of applications include, without limitation, medical, aerospace, communications infrastructure, atomic energy control. Kyocera expressly disclaims any and all liability resulting in any way to the use of the module in such applications.
2. Customer agrees to indemnify, defend and hold Kyocera harmless from and against any and all actions, claims, damages, liabilities, awards, costs, and expenses, including legal expenses, resulting from or arising out of Customer's use, or sale for use, or Kyocera modules in applications.

Caution

1. Kyocera shall have the right, which Customer hereby acknowledges, to immediately scrap or destroy tooling for Kyocera modules for which no Purchase Orders have been received from the Customer in a two-year period.
2. Please note that we may not be able to respond to new environmental regulations after receiving the final mass production order for this product.

Spec No. CPD-365458AA-01 Rev.01	Part No. C0500WV65458-BN-AA	Page -
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Revision record

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June 24, 2026		<i>K. Komurasaki</i>	<i>T. Masuda</i>	<i>I. Kawajiri</i>	<i>T. Sawada</i>
Rev. No.	Date	Page	Descriptions		
01	Jun. 24, 2026	-	Removed "CONFIDENTIAL" notation		
		1	1. General description Revised the content.		
			2. Features Revised the content.		
			3. Mechanical specification Added note numbers, Mass, and polarizer item.		
		2	4. Mechanical dimension Revised outline drawing.		
		3	6. Electrical characteristics Corrected description of standard operating conditions.		
		4	7. Backlight characteristic Revised the numerical values for "c. Conditions".		
			8. Interface signals Modified the title.		
		5	8-1. LCM Pin description Corrected errors for Pin No. 28.		
			9-3. Timing Chart for 800RGB*480 timing Added timing chart and timing table.		
		9-11			
		14	11. Electro-optical characteristics Changed the values for luminance of white, contrast ratio, and viewing angle range.		
		16	12-1. Tests Revised the image sticking test conditions.		
		17	13-1. Inspection conditions Revised the content.		
		20	13-5.1. Visual inspection criteria in cosmetic Added bezel visual inspection criteria.		
		21	13-5.3. Others Revised the content.		
		22	14. Label description Revised the country-of-origin description.		
		23	15. Packaging Revised packaging method.		
		25	17-4. Precautions for operation Revised content.		
		26	17-5. Handling precautions Revised content.		
		27	17-5.1. Handling precaution for LCD Corrected typographical errors.		
		29	17-5.3. Handling and routing of FPC cable Revised wording and figure.		

1. General description

This document defines the specification of C0500WV65458-BN-AA. (RoHS Compliant)

2. Features

Display mode	Transmissive Type
	a-Si color TFT LCD, FFS normally black
Screen size	5 inches
Display format	Graphic 800*RGB*480 Stripe type
Input data	LVDS 4 lane
Viewing direction	Free
Backlight	White LED
Polarizer	Glare treatment

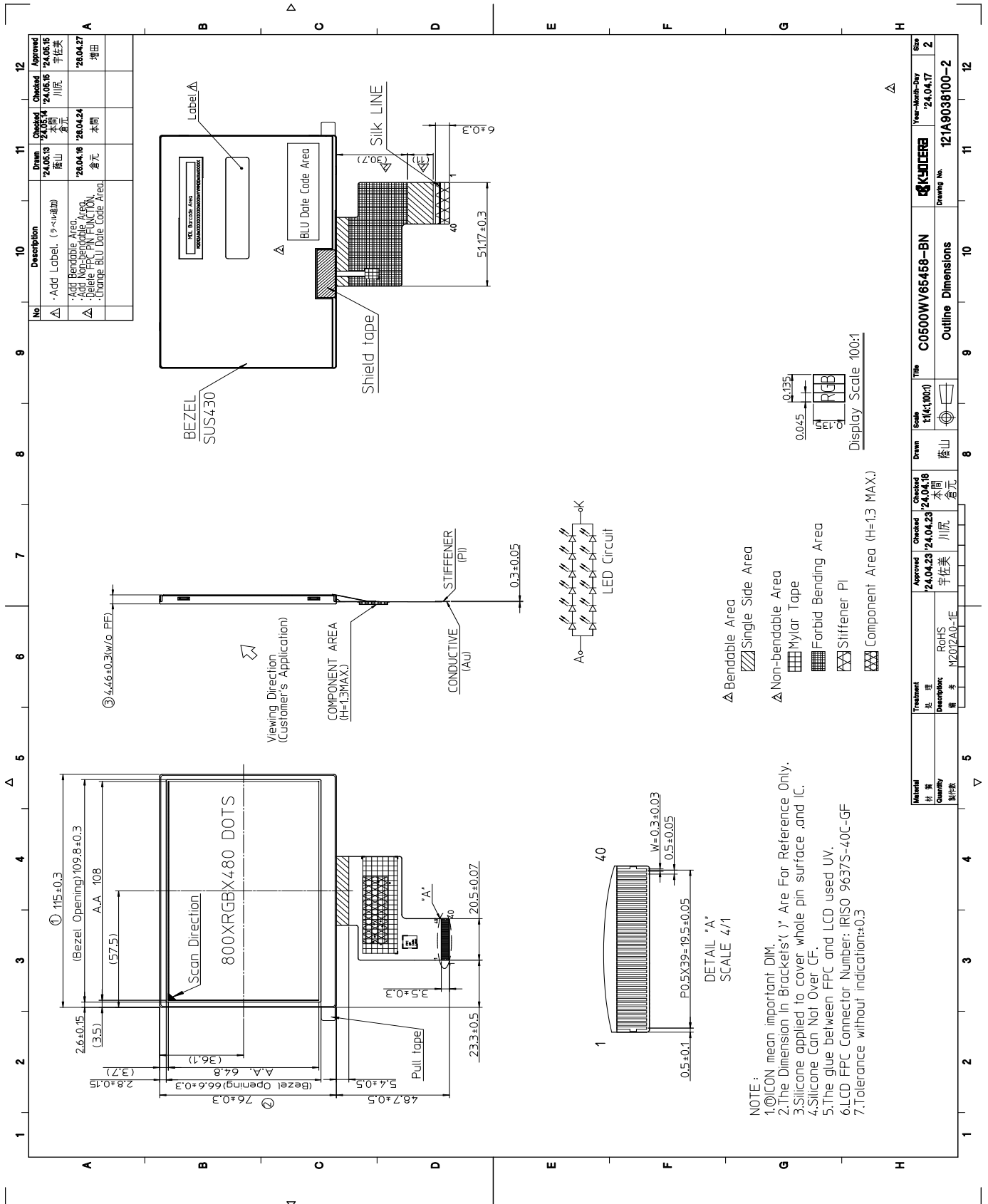
3. Mechanical specification

Item	Specifications	Unit
Dimensional outline	115(W)×76(H)×4.46(T) 1)	mm
Resolution	800×RGB×480 2)	dot
Active area	108(W)×64.8(H)	mm
Dot pitch	0.135(W)×0.135 (H)	mm
Mass	66	g

1) Outline exclude FPC

2) 1 pixel = 3 dots = Red dot+ Green dot+ Blue dot

4. Mechanical dimension



5. Absolute maximum ratings

If the operating condition exceeds the following absolute maximum ratings, the TFT LCD module may be damaged permanently.

Item	Symbol	Condition	Values		Unit	Note
			Min.	Max.		
Power supply voltage	VDD	GND=0	-0.3	4.0	V	
IO supply voltage	VDDI	GND=0	-0.3	4.0	V	
Storage temperature	T _{ST}	-	-30	80	°C	Ambient temperature
Operating temperature	T _{OP}	-	-20	70	°C	Ambient temperature

- 1) All the voltages listed above are with respect to GND=0V.
- 2) Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above.

6. Electrical characteristics

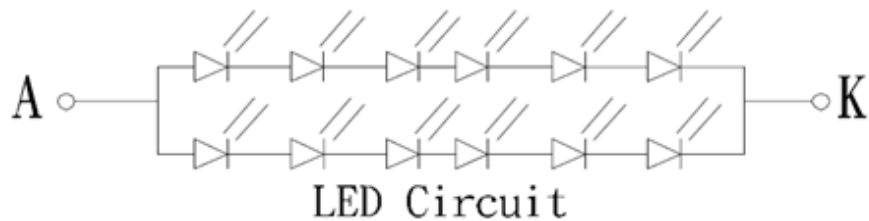
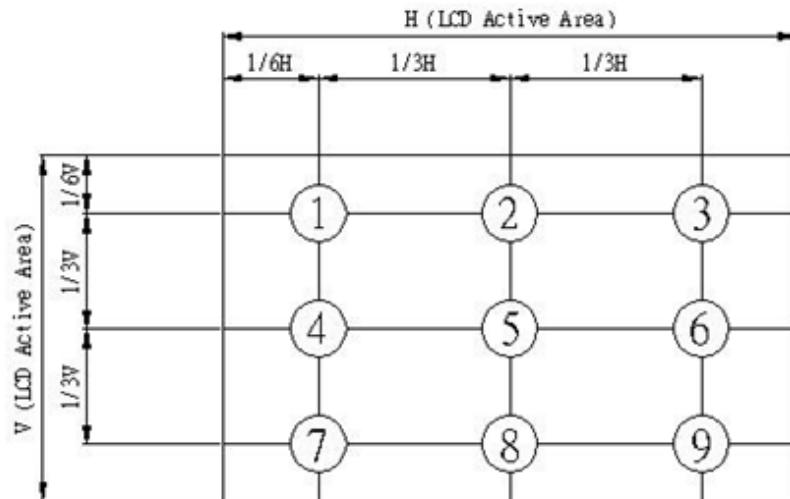
Typical operating conditions (GND=0V, T_a=25°C)

Item	Symbol	Values			Unit	Note
		Min.	Typ.	Max.		
Power supply voltage	V _{DD}	3.2	3.3	3.4	V	
IO supply voltage	V _{DDI}	3.2	3.3	3.4	V	
Power consumption	I _{DD}	-	-	95	mA	
Input signal high voltage	V _{IH}	0.7V _{DDI}	-	V _{DDI}	V	
Input signal low voltage	V _{IL}	GND	-	0.3V _{DDI}	V	
Output signal high voltage	V _{OH}	V _{DDI} -0.4	-	V _{DDI}	V	
Output signal low voltage	V _{OL}	GND	-	GND+0.4	V	

7. Backlight characteristic

Item	Symbol	Min	Typ	Max	Unit
Backlight power supply	V_{LED}	14.4	-	19.8	V
Backlight current	I_{LED}	-	100	-	mA
Life time	-	50,000	-	-	hrs

- Test Instrument: BM-7 (Distance =500mm; Field = 1°)
- Light Source: LED*12(White)
- Conditions: $V_{LED}=14.4V\sim19.8V$; $I_{LED}=100mA/line$
- Measure Brightness: 1 ~ 9
- Uniformity= (Min. Brightness / Max. Brightness) *100%
- Uniformity $\geq 70\%$
- LED life time is defined as the time when the brightness become 50% of initial value.



8. Interface signals

8-1. LCM Pin description

Pin No.	Pin Name	I/O	Pin Function	Remark
1	GND	P	System Ground	
2	GND(BIST)	P	BIST function control pin Please connect to GND for normal display.	
3	LVDS_FMT	I	L: VESA Mode. H: JEIDA Mode (Default).	
4	GND	P	System Ground	
5	GND	P	System Ground	
6	DCLK_N	I	LVDS interface: DCLKN	
7	DCLK_P	I	LVDS interface: DCLKP	
8	GND	P	System Ground	
9	GND	P	System Ground	
10	D3_N	I	LVDS interface data input D3N	
11	D3_P	I	LVDS interface data input D3P	
12	GND	P	System Ground	
13	GND	P	System Ground	
14	D2_N	I	LVDS interface data input D2N	
15	D2_P	I	LVDS interface data input D2P	
16	GND	P	System Ground	
17	GND	P	System Ground	
18	D1_N	I	LVDS interface data input D1N	
19	D1_P	I	LVDS interface data input D1P	
20	GND	P	System Ground	
21	GND	P	System Ground	
22	D0_N	I	LVDS interface data input D0N	
23	D0_P	I	LVDS interface data input D0P	
24	GND	P	System Ground	
25	GND	P	System Ground	
26	RESET	I	Reset pin	
27	CS	I	Serial communication chip selection. Please connect to VDDI when not in used.	
28	SDA	I/O	Serial communication data input and output. Please leave this pin open.	
29	SCL	I	Serial communication clock input. Please leave this pin open.	
30	VDD	P	Power supply	
31	VDD	P	Power supply	
32	VDDI	P	Power supply	

Pin No.	Pin Name	I/O	Pin Function	Remark
33	TEST(AUTODL)	T	Reserved for testing only, please leave this pin open.	
34	DISP	I	Standby pin	Active low
35	TEST(ENPROG)	T	Reserved for testing only, please leave this pin open.	
36	GND	P	System Ground	
37	NC	-	No Connect	
38	LED_A	P	LED Backlight Anode	
39	LED_K	P	LED Backlight Cathode	
40	GND	P	System Ground	

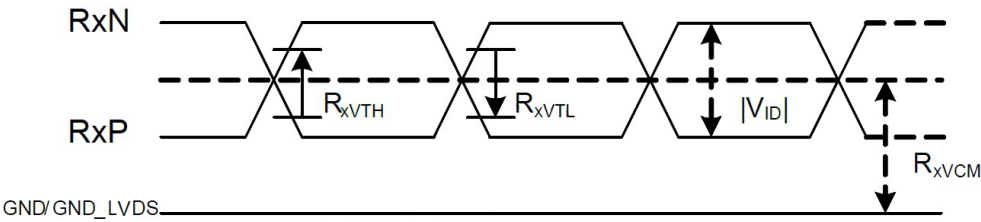
I: Input, I/O: Input/output, P: Power, T: Test Pin

9. LVDS characteristics

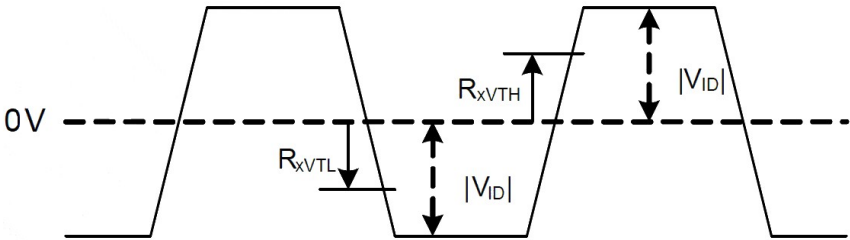
9-1. LVDS mode DC Electrical characteristics

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Differential Input High Threshold Voltage	R_{xVTH}	-	-	0.1	V	$R_{xVCM} = 1.2V$
Differential Input Low Threshold Voltage	R_{xVTL}	-0.1	-	-	V	
Input Voltage Range (Singed-End)	R_{xVIN}	0	-	VDD-1.0	V	
Differential Input Common Mode Voltage	R_{xVCM}	$ V_{ID} /2$	-	$2.4- V_{ID} /2$	V	
Differential Input Voltage	$ V_{ID} $	0.2	-	0.6	V	
Differential Input Leakage Current	R_{VxIIZ}	-10	-	10	uA	
LVDS Digital Operating Current	I_{VDD_LVDS}	-	10	15	mA	
LVDS Digital Stand-by Current	I_{STBD_LVDS}	-	10	50	uA	
Differential Input Termination Resistance	R_{ID}	90	100	110	Ω	

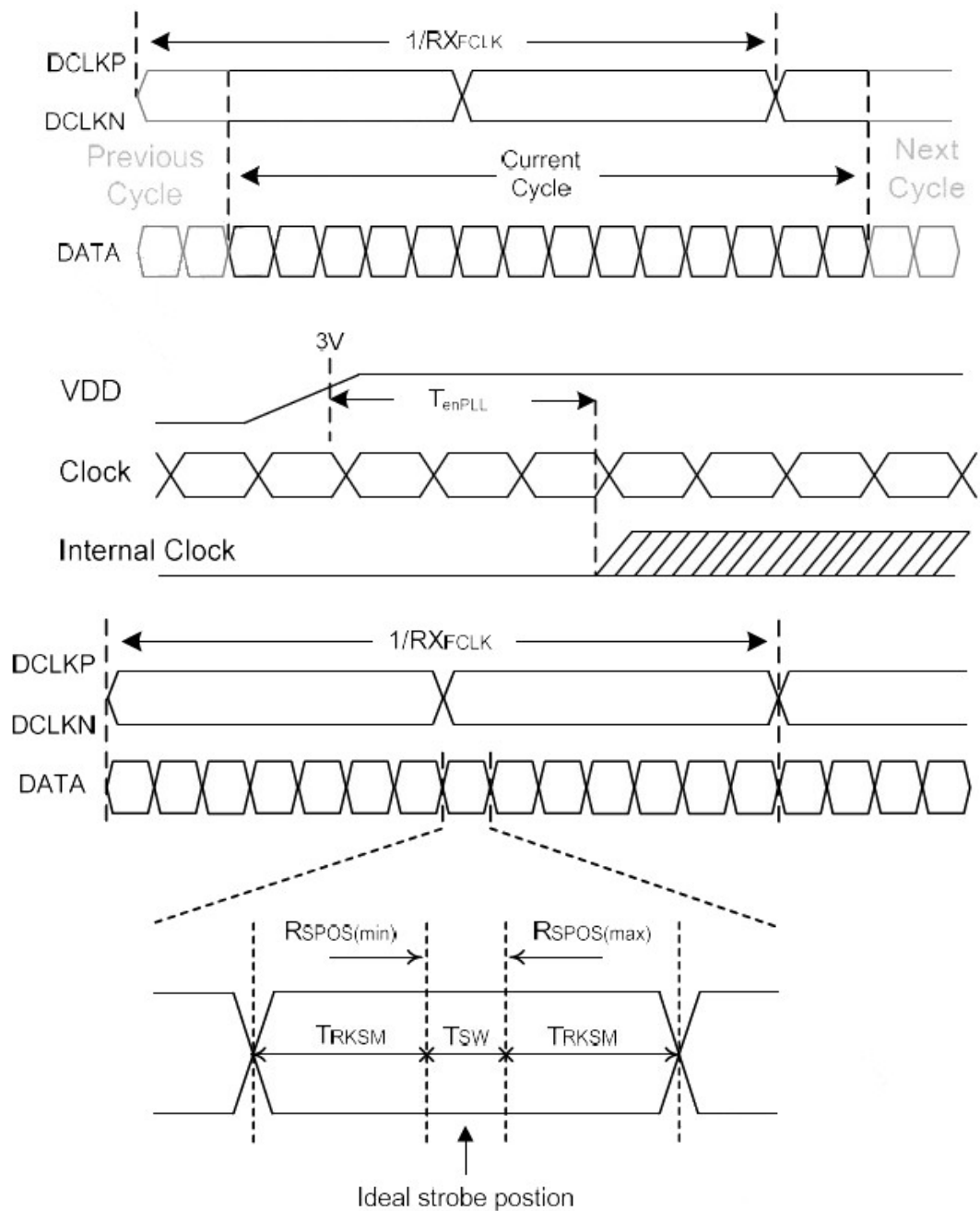
Single End Signals



Differential Signals



9-2. LVDS mode AC electrical characteristics



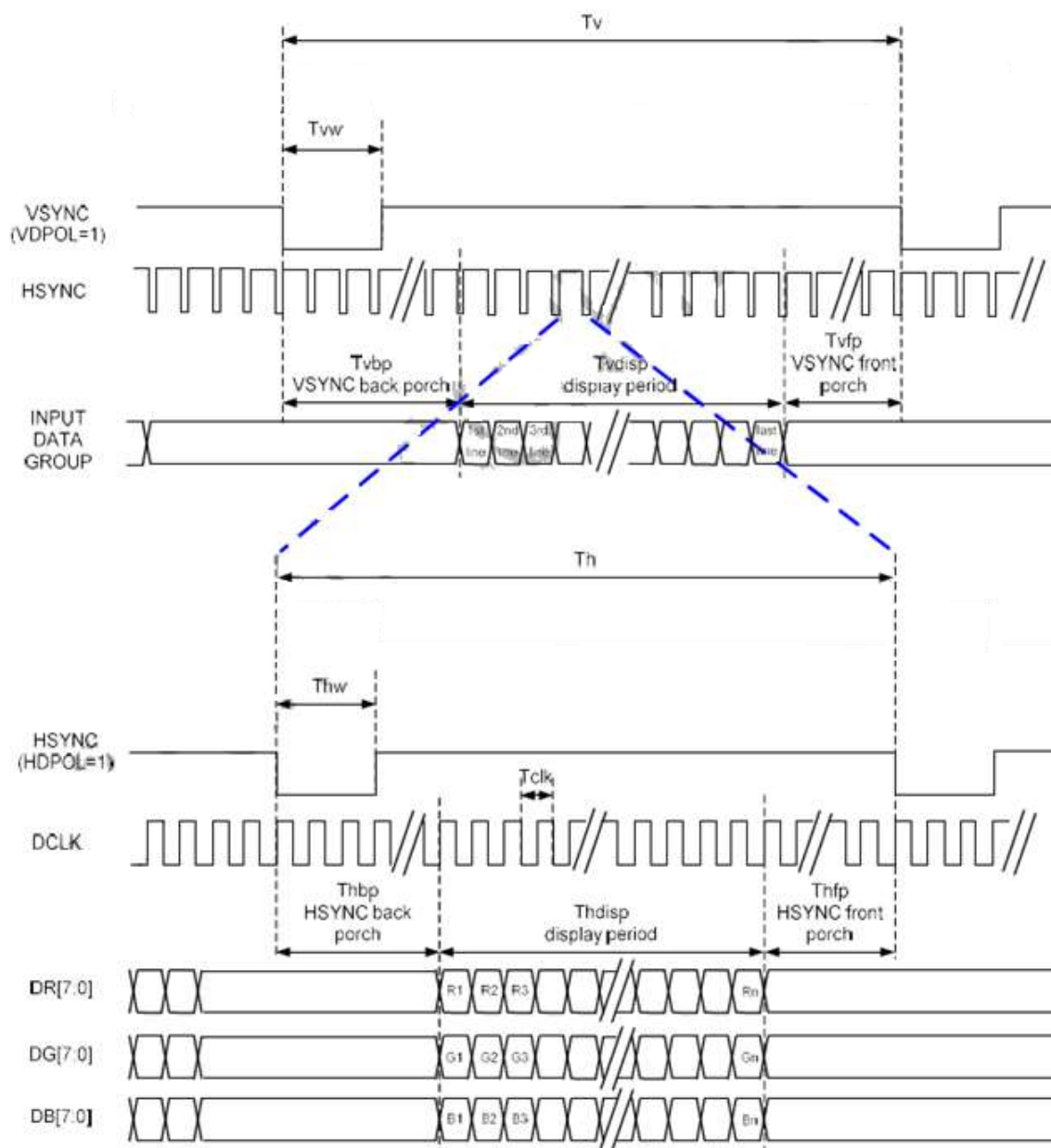
RRKSM : Receiver strobe margin

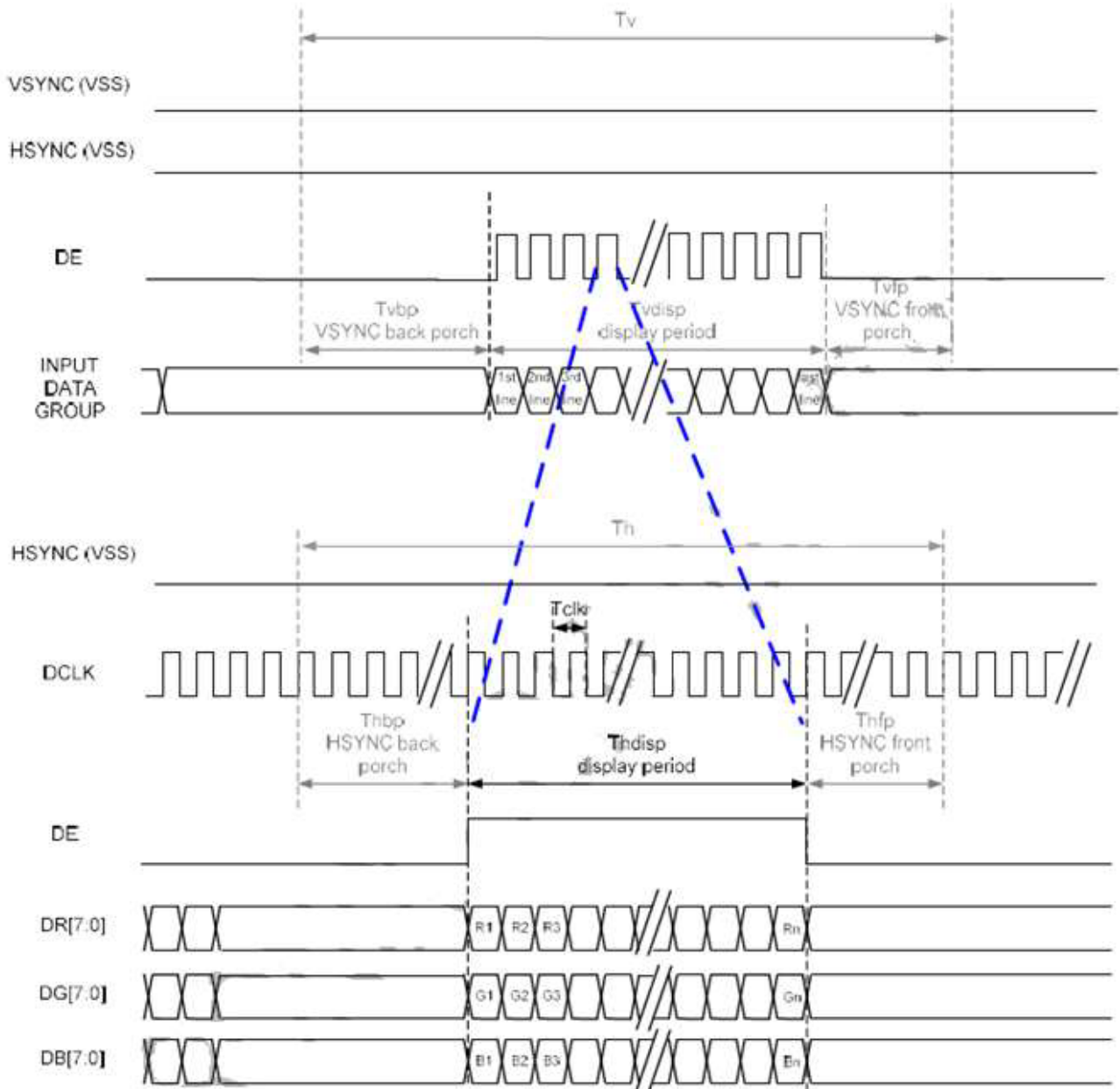
RSPS : Receiver strobe position

TSW : Strobe width (internal DATA sampling window)

Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Clock Frequency	RX_{FCLK}	23	25	27	MHz	
Input Data Skew Margin	TR_{SKM}	400			ps	
Clock High Time	T_{LVCH}	$4/(7 \times RX_{FCLK})$			ns	
Clock Low Time	T_{LVCL}	$3/(7 \times RX_{FCLK})$			ns	
PLL Wake-up Time	T_{enPLL}			150	us	
LVDS Spread Spectrum Clocking (SSC) Tolerance of LVDS Receiver						
Modulation Frequency	SSC_{MF}			100	KHz	
Modulation Rate	SSC_{MR}			+/-3	%	

9-3. Timing Chart for 800RGB*480 timing

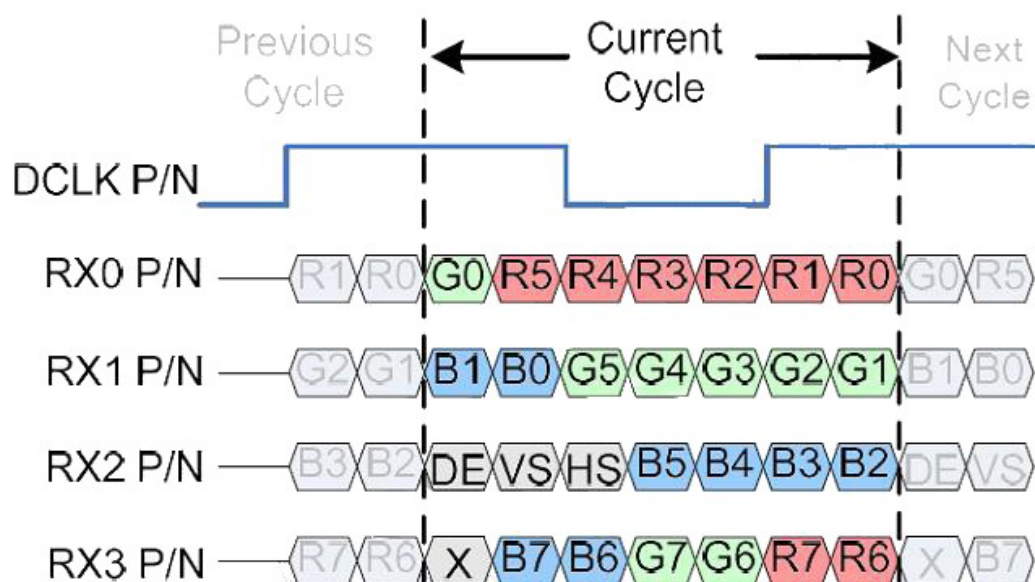
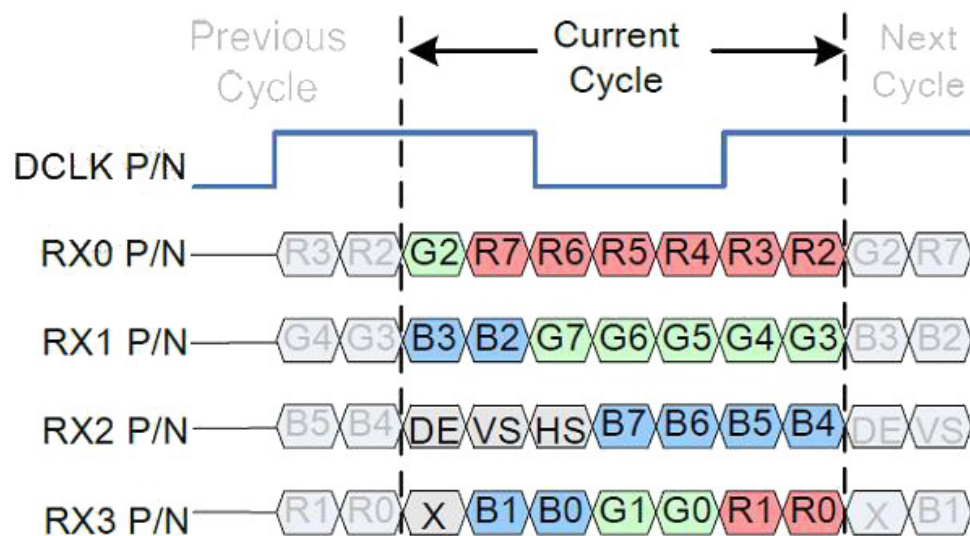
SYNC Mode

DE Mode

LVDS Timing table for DE/SYNC						
Item	Symbol	Min.	Typ.	Max.	Unit	Remark
DCLK Frequency	Fclk	23	25	27	MHz	
HSYNC	Period Time	Th	808	816	896	DCLK
	Display Period	Thdisp	800			DCLK
	Back Porch	Thbp	4	8	48	DCLK
	Front Porch	Thfp	4	8	48	DCLK
	Pulse Width	Thw	2	4	8	DCLK
VSYNC	Period Time	Tv	492	496	504	HSYNC
	Display Period	Tvdisp	480			HSYNC
	Back Porch	Tvbp	6	8	12	HSYNC
	Front Porch	Tvfp	6	8	12	HSYNC
	Pulse Width	Tvw	2	4	8	HSYNC

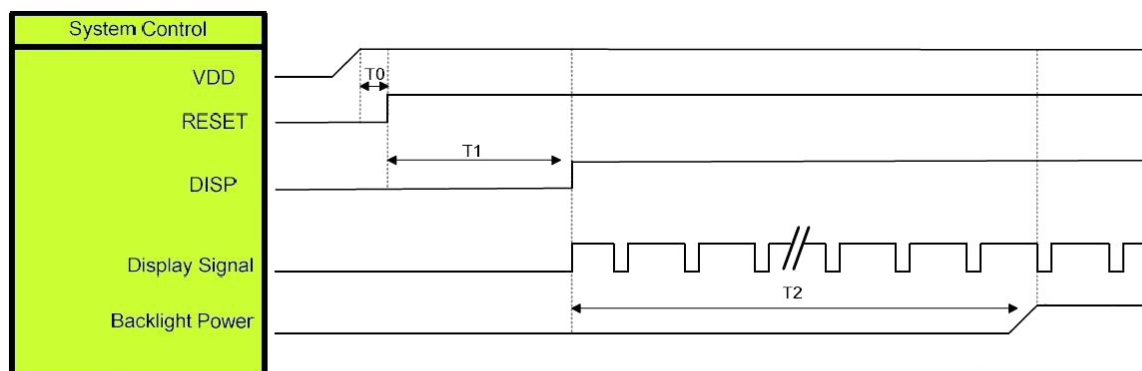
- 1) The minimum blanking time depends on the GIP timing of the panel specification.
- 2) To ensure the compatibility of different panels, it is recommended to use the typical setting.
- 3) It is necessary to keep Tvbp = 8 and Thbp = 8 in sync mode. DE mode is unnecessary to keep it.

9-4. 4-Lane data format color bit map

4 Lane VESA Data Format Color Bit Map**4 Lane JEIDA Data Format Color Bit Map**

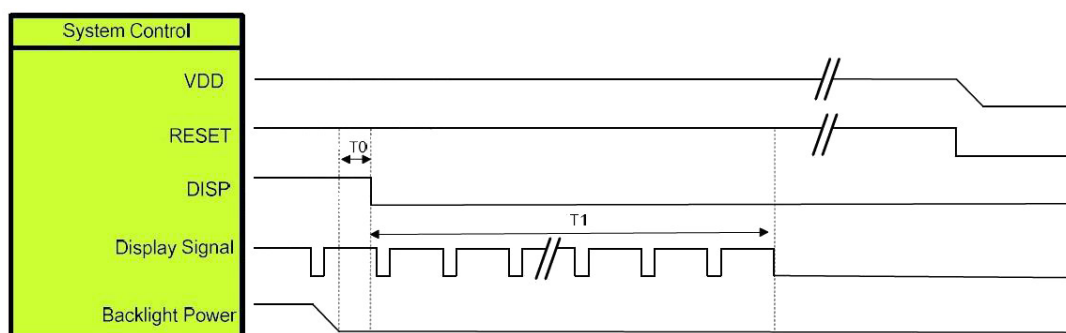
10. Power on/off sequence

10-1. Power on sequence



Symbol	Description	Min. Time	Unit
T0	System power stability to RESET signal	0	ms
T1	RESET= "High" to DISP="High"	10	ms
T2	Display Signal output to Backlight Power on	250	ms

10-2. Power off sequence



Symbol	Description	Min. Time	Unit
T0	Backlight Power off to DISP="Low"	5	ms
T1	DISP="Low" to IC internal voltage discharge complete	100	ms

- 1) When DISP pull "H" or "L", IC will execute the internal power on or power off procedures. Please be careful about the timing of DISP and do not interrupt it during power on or power off procedure, otherwise unexpected errors will occur.

11. Electro-optical characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Note
Luminance of white		Lwh	800	1000	-	cd/m ²	3)
Contrast Ratio		CR	800	1000	-	-	
CIE color Coordinates	White	x	0.26	0.31	0.36	-	CA-310 1)
		y	0.28	0.33	0.38		
	Red	x	0.54	0.59	0.64		
		y	0.32	0.37	0.42		
	Green	x	0.28	0.33	0.38		
		y	0.55	0.60	0.65		
	Blue	x	0.09	0.14	0.19		
		y	0.02	0.07	0.12		
Response Time (25°C)		Tr+Tf	-	35	40	ms	2)
Uniformity		%	70%	-	-	-	-

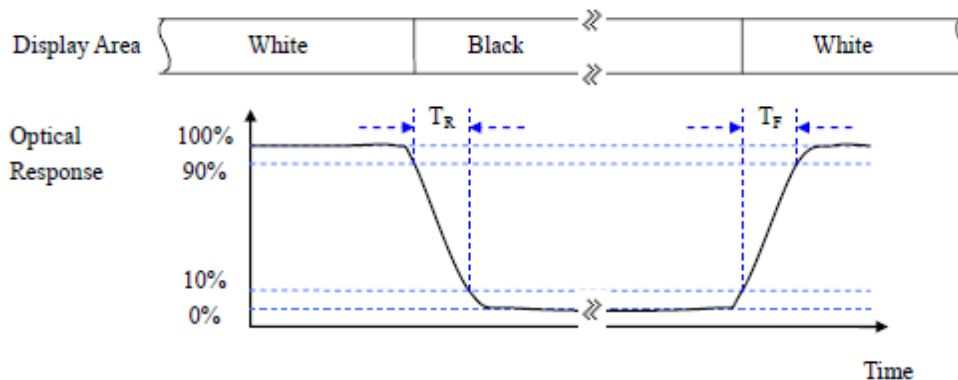
Viewing angle range	$\phi = 0^\circ$ (6")	$\phi = 90^\circ$ (3")	$\phi = 180^\circ$ (12")	$\phi = 270^\circ$ (9")	Note
$CR \geq 10$	85	85	85	85	5)

1) Test equipment setup

After stabilizing and leaving the panel alone at a given temperature for 30 minutes, the measurement should be executed. Measurement should be executed in a stable, windless, and dark room. Optical specifications are measured by CA310.

2) Definition of response time: T_R and T_F

The figure below is the output signal of the photo detector.



3) Definition of contrast ratio:

$$\text{Contrast ratio (CR)} = \frac{\text{Brightness measured when LCD is at "white state"}}{\text{Brightness measured when LCD is at "black state"}}$$

White $V_i = V_{i50\%} \pm 1.5V$

Black $V_i = V_{i50\%} \mp 2.0V$

“±” means that the analog input signal swings in phase with VCOM signal.

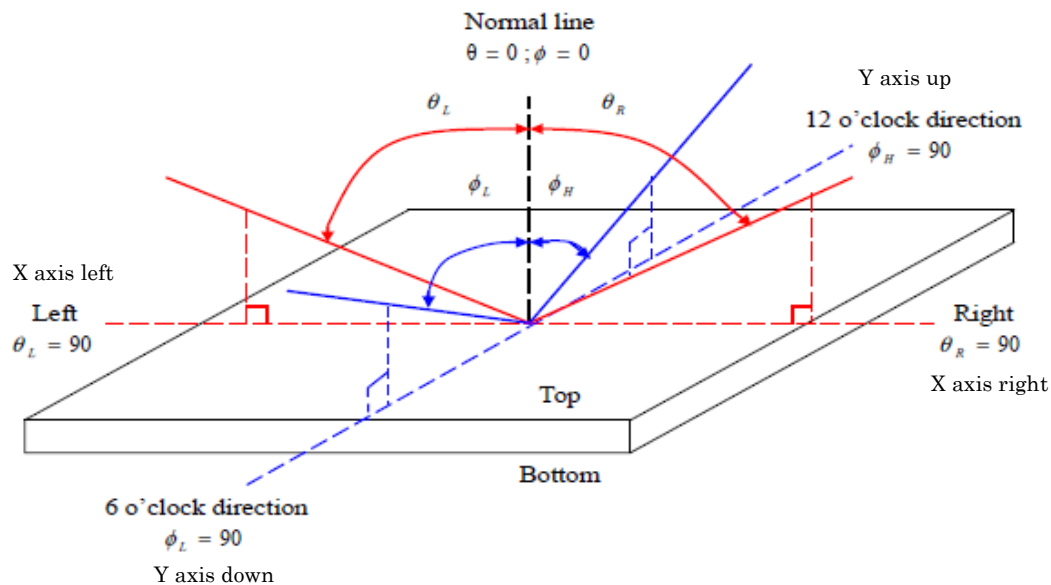
“∓” means that the analog input signal swings out of phase with VCOM signal.

$V_{i50\%}$: The analog input voltage when transmission is 50%.

The 100% transmission is defined as the transmission of LCD panel when all the input terminals of module are electrically opened.

4) Measured at the center area of the panel when all the input terminals of LCD panel are electrically opened.

5) Definition of viewing angle:



12. Reliability

12-1. Tests

No.	Item	Condition	Criteria
1	High Temperature Operating	70°C, 240 hrs	1. No defect of operational function in room temperature is allowable. (23±5°C). 2. Leakage current should be below double of initial value.
2	Low Temperature Operating	-20°C, 240 hrs	
3	High Temperature Non-Operating	80°C, 240 hrs	
4	Low Temperature Non-Operating	-30°C, 240 hrs	
5	High Temperature/ Humidity Operating	60°C, 90%RH 240 hrs	
6	Temperature Shock Non-Operating	-30°C ↔ 80°C (60min) (5min) (60min) 100 CYCLES	
7	Electrostatic Discharge Test Non-Operating	HBM: 2kv (C=100pF; R=1500Ω Pin to Pin/Vdd & Vss Non-Operating)	
8	Image sticking	40°C /2 hours, checkerboard pattern, Judge by N.D 10% filter invisible at 128 grayscale.	

- 1) Test after 24 hours in room temperature.
- 2) The sampling above is individually for each reliability testing condition.
- 3) The color fading of polarizing filter should not care.
- 4) The entire reliability-testing chamber above is using D.I. water. (Min value: 1.0 M ohm-cm)
- 5) In case of malfunction defect caused by ESD damage, if it would be recovered to normal state after resetting, it would be judged as a good part.

13. Inspection criteria

13-1. Inspection conditions

- 1) Customer identified anomalies not defined within this inspection standard shall be reviewed by Kyocera, and an additional standard shall be determined by mutual consent.
- 2) This inspection standard about the image quality shall be applied to any defect within the active area and shall not be applicable to outside of the area.

3) Inspection conditions

Luminance: 1000 ± 200 lux

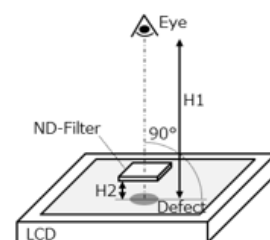
Inspection distance (H1): 300 mm

Distance between LCD panel surface and ND filter (H2): $0 < H2 < 30$ mm

*ND filters are placed parallel to the LCD panel.

Temperature: $23 \pm 5^{\circ}\text{C}$

Direction: Directly above



13-2. Classification of defects

13-2.1. Major defect

A major defect refers to a defect that may substantially degrade usability for product applications.

13-2.2. Minor defect

A minor defect refers to a defect which is not considered to be able substantially degrade the product application or a defect that deviates from existing standards almost unrelated to the effective use of the product or its operation.

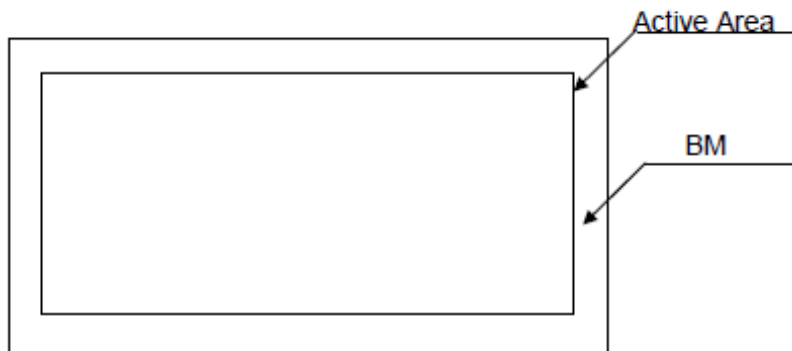
If the LCD/LCM's cosmetic and display performance do not specify in "inspection criteria", it should be based on these delivered samples.

13-3. Sampling & acceptable quality level

Level II, ANSI / ASQ Z1.4		
	Major	Minor
Cosmetic	0.4	1.0
Electrical-display	0.15	0.15

13-4. Definition of inspection area

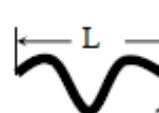
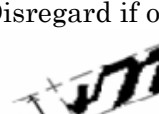
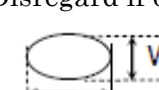
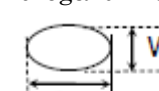
A.A.: Active Area



13-5. Inspection item and criteria

13-5.1. Visual inspection criteria in cosmetic

1) LCM appearance defect within A.A.

No.	Defect	Criteria		Remark
1	Round type (Minor)	Spec.	Permissible Qty	1. $\phi = (L+W)/2$, L: Length, W: Width 2. Disregard if out of A.A. 
		$\psi \leq 0.15\text{mm}$	Disregard	
		$0.15\text{mm} < \psi \leq 0.5\text{mm}$	3	
		$\psi > 0.5\text{mm}$	0	
2	Line type Scratch (Minor)	Spec.	Permissible Qty	1. L: Length, W: Width 2. Disregard if out of A.A. 
		$W \leq 0.03\text{mm}$	Disregard	
		$0.03\text{mm} < W \leq 0.05\text{mm}$ and $L \leq 10\text{mm}$ and $d > 5\text{mm}$	4	
		$W > 0.05\text{mm}$ or $L > 10\text{mm}$	0	
3	Fiber (Minor)	Spec.	Permissible Qty	1. L: Length, W: Width 2. Disregard if out of A.A. 
		$W \leq 1.0\text{mm}$ and $L \leq 1.5\text{mm}$	4	
		$W > 1.0\text{mm}$ or $L > 1.5\text{mm}$	0	
4	Polarizer bubble (Minor)	Spec.	Permissible Qty	1. $\phi = (L+W)/2$, L: Length, W: Width 2. Disregard if out of A.A. 
		$\phi < 0.2\text{mm}$	Disregard	
		$0.2\text{mm} \leq \phi \leq 0.5\text{mm}$	2	
		$\phi > 0.5\text{mm}$	0	
5	Polarizer Dent, Bulge (Minor)	Spec.	Permissible Qty	1. $\phi = (L+W)/2$, L: Length, W: Width 2. Disregard if out of A.A. 
		$\phi \leq 0.25\text{mm}$	Disregard	
		$0.25\text{mm} \leq \psi \leq 0.5\text{mm}$	4	
		$\phi > 0.5\text{mm}$	0	

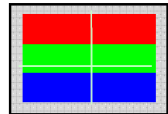
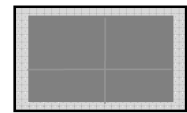
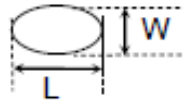
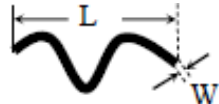
2) FPC

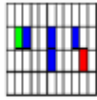
No	Defect	Criteria	Remark
1	Copper peeling (Minor)	Not allowed	

3) Bezel

No.	Defect	Criteria	Remark
1	Rust point (Major)	Not allowed	
2	Dirty, Oil pollution (Major)	Not allowed	
3	Other	No function trouble Scratch and tarnish are ignored	

13-5.2. LCM electrical criteria

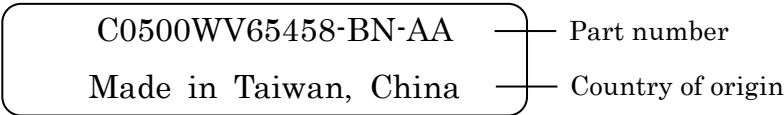
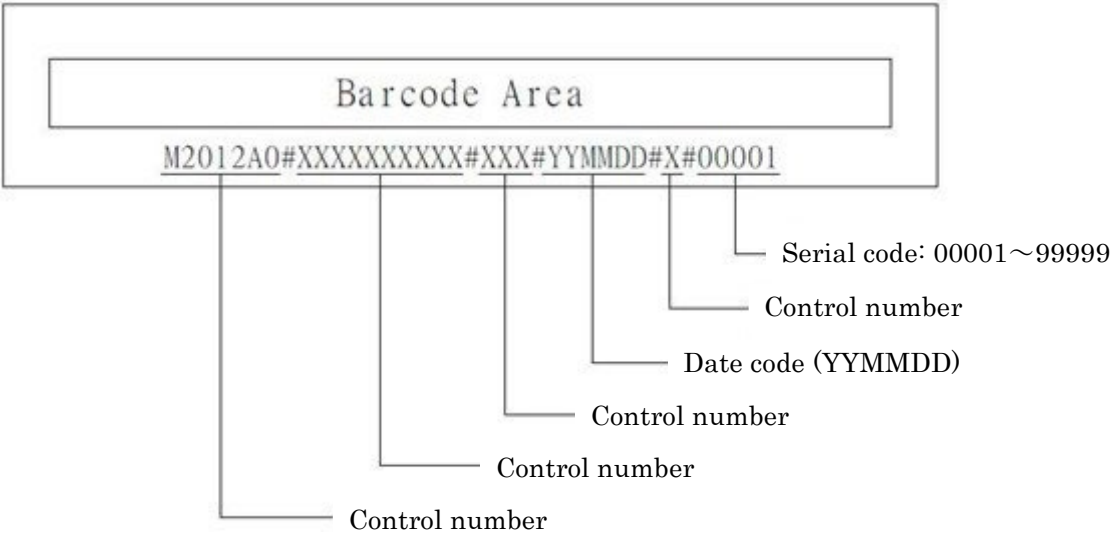
No.	Defect	Criteria		Remark
1	No display (Major)	Not allowed		
2	Missing line (Major)	Not allowed		
3	Darker or lighter line (Major)	Not allowed		
4	Round type (Minor)	Spec.	Permissible Q'ty	1. $\psi = (L+W)/2$, L: Length, W: Width 2. Disregard if out of A.A. 
		$\phi < 0.15\text{mm}$	Disregard	
		$0.15\text{mm} \leq \phi \leq 0.5\text{mm}$	3	
		$\phi > 0.5\text{mm}$	0	
5	Line type, Scratch (Minor)	Spec.	Permissible Q'ty	1. L: Length, W: Width 2. Disregard if out of A.A. 
		$W \leq 0.03\text{mm}$	Disregard	
		$0.03\text{mm} < W \leq 0.05\text{mm}$ and $L \leq 10\text{mm}$ and $d > 5\text{mm}$	4	
		$W > 0.05\text{mm}$ or $L > 10\text{mm}$	0	
6	Fiber (Minor)	Spec.	Permissible Q'ty	1. L: Length, W: Width 2. Disregard if out of A.A. 
		$W \leq 1.0\text{mm}$ and $L \leq 1.5\text{mm}$	4	
		$W > 1.0\text{mm}$ or $L > 1.5\text{mm}$	0	

No.	Defect	Criteria		Remark
7	Bright / Dark point (Minor)	Spec.	Permissible Q'ty	1.1sub-pixel: 1R or 1G or 1B 2. Point defect area $\geq$ 1/2 sub pixel. 3.Distance between two points>15mm 
		Bright point	0	
		Dark dot point	2	
		Bright +Dark point	2	
		Two adjacent dot	0	
8	Weak Bright dot (Minor)	$\geq$ 1/2dot	Refer to Bright point criteria	
		< 1/2dot	$n\leq$ 5	By 5% ND filter invisible
			$n>$ 5	Visually Not allowed
9	Mura (Minor)	By 5% ND filter invisible		

13-5.3. Others

- Issues that are not defined in this document shall be discussed and agreed with both parties.
(Customer and supplier)
- Unless otherwise agreed upon in writing, the criteria shall be applied to both parties.
(Customer and supplier)

14. Label description



15. Packaging

Empty tray (Top)

Product storage tray

PP board (Top & Bottom)

Clear tape

ESD bag

Bubble wrap

Outer box

Max. 66pcs/box

TYPE	
CUSTOMER NO.	
QUANTITY	PCS.
C / S NO.	Packing DATE
LOT NO.	P/O NO.

MESSRS. (御得意先)	
P/O No. (御注文番号)	
DESCRIPTION (品名)	
PARTS No. OR OWNG. No. (パーツ番号 (自製))	
QUANTITY (数量)	DATE (日付)

KYOCERA CORPORATION

Spec No.	Part No.	Page
CPD-365458AA-01 Rev.01	C0500WV65458-BN-AA	24

16. RoHS compliant warranty

RoHS Hazardous substances including:

- Cd < 100 ppm
- Pb < 1000 ppm
- Hg < 1000 ppm
- Cr +6 < 1000 ppm
- PBDE < 1000 ppm
- PBB < 1000 ppm

17. Precautions for use

17-1. Safety

- 1) Do not swallow any liquid crystal, even if there is no proof that liquid crystal is poisonous.
- 2) If the LCD panel breaks, be careful not to get liquid crystal to touch your skin.
- 3) If skin is exposed to liquid crystal, wash the area thoroughly with alcohol or soap.

17-2. Storage conditions

- 1) Store the panel or module in a dark place where the temperature is $23\pm5^{\circ}\text{C}$ and the humidity is below $50\pm20\%\text{RH}$.
- 2) Store in anti-static electricity container.
- 3) Store in clean environment, free from dust, active gas, and solvent.
- 4) Do not place the module near organics solvents or corrosive gases.
- 5) Do not crush, shake, or jolt the module.
- 6) Do not exposed to direct sun light of fluorescent lamps.

17-3. Installing LCD module

Attend to the following items when installing the LCM.

- 1) Cover the surface with a transparent protective plate or touch panel to protect the polarizer and LC cell.

17-4. Precautions for operation

- 1) Driving the LCD in the voltage above the limit will shorten its lifetime.
- 2) Response time is greatly delayed at temperature below the operating temperature range. However, this does not mean the LCD will be out of the order. It will recover when it returns to the specified temperature range.
- 3) When turning the power on, input each signal after the positive/negative voltage becomes stable.
- 4) Do not apply water or any liquid on product which composed of T/P.

Spec No.	Part No.	Page
CPD-365458AA-01 Rev.01	C0500WV65458-BN-AA	26

17-5. Handling precautions

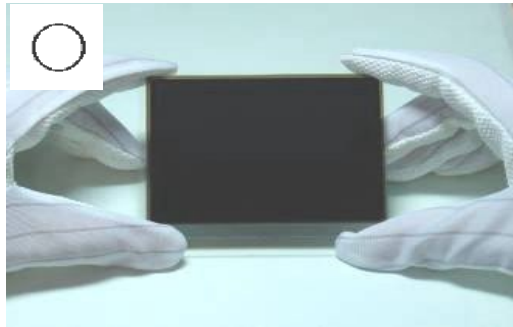
- 1) Avoid static electricity which can damage the CMOS LSI; please wear the wrist strap when handling.
- 2) The polarizing plate of the display is very fragile. So, please handle it very carefully.
- 3) Do not give external shock.
- 4) Do not apply excessive force on the surface; it may cause display abnormal.
- 5) Do not wipe the polarizing plate with a dry cloth, as it may easily scratch the surface of plate.
- 6) Do not use ketonics solvent & Aromatic solvent, use with a soft cloth soaked with a cleaning naphtha solvent.
- 7) Do not operate it above the absolute maximum rating.
- 8) Do not remove the panel or frame from the module.

17-5.1. Handling precaution for LCD

LCM is easy to be damaged.

Please note below and be careful for handling.

Correct handling:

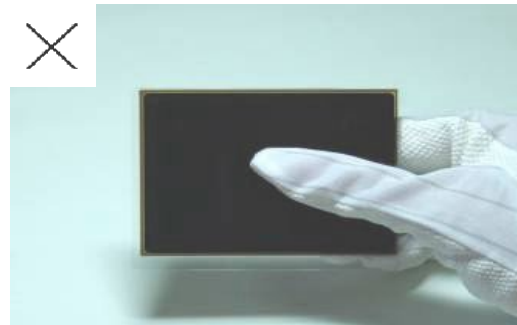


As above photo, please handle with anti-static gloves around LCD edges.

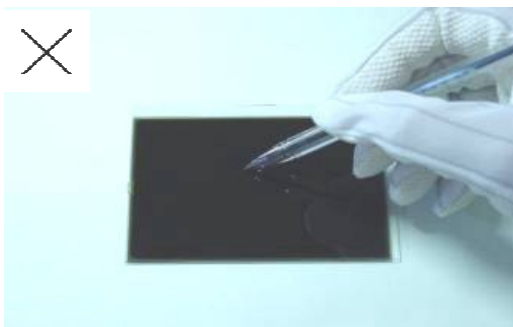
Incorrect handling:



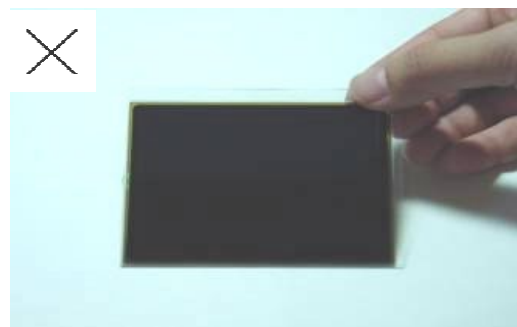
Please don't stack the LCDS.



Please don't hold the surface of LCD.



Please don't operate with sharp stick such as pens.



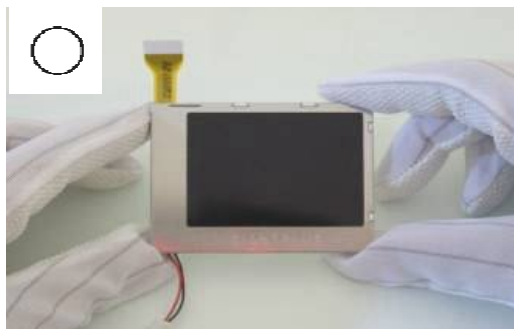
Please don't touch ITO glass without anti-static gloves.

17-5.2. Handling precaution for LCM

LCM is easy to be damaged.

Please note below and be careful for handling.

Correct handling:

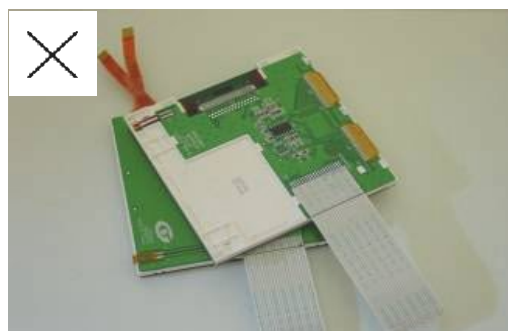


As above picture, please handle with anti-static gloves around LCM edges.

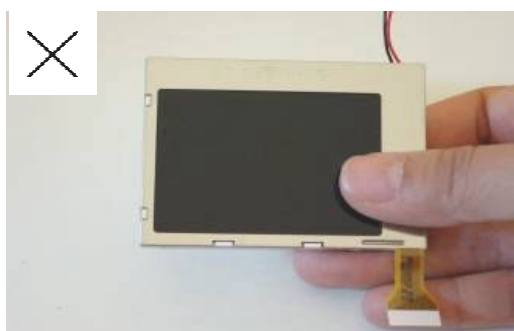
Incorrect handling:



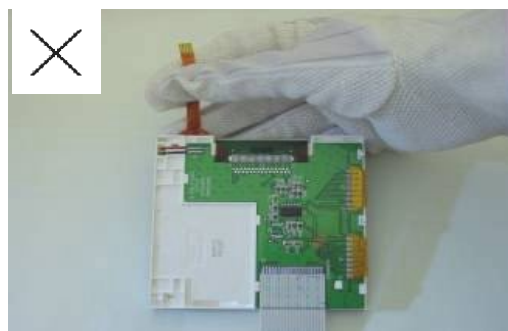
Please don't touch IC directly.



Please don't stack LCM.



Please don't hold the surface of panel.

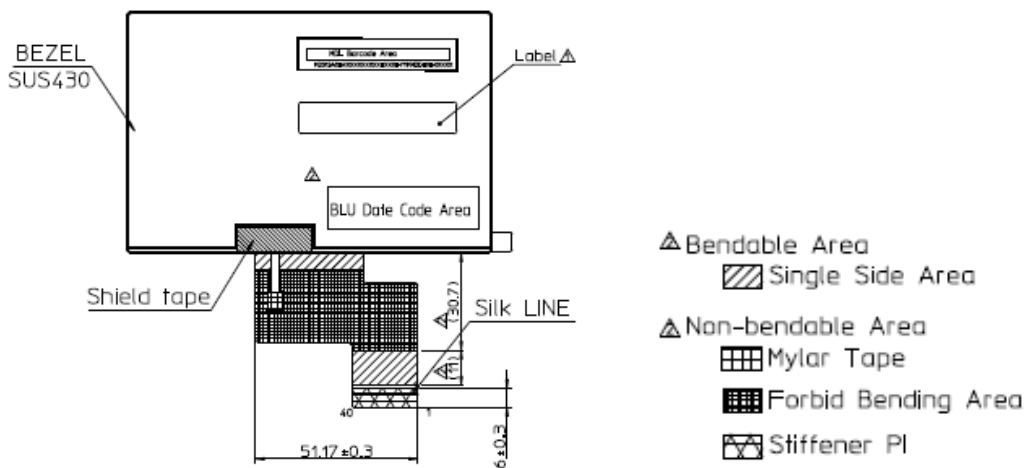


Please don't stretch interface of output, such as FPC cable.

17-5.3. Handling and routing of FPC cable

Please avoid the following handling and routing methods, as they may cause disconnection and result in the LCD panel becoming non-functional.

- 1) Do not pull the FPC cable connecting the LCD panel and the control board with strong force.
- 2) Do not bend or fold the FPC cable with strong force that may leave a crease.
- 3) Bendable Area: The bending radius must be bigger than 1.0mm.
- 4) Avoid any operation or structural design that causes the FPC cable to bend at the boundary with the Forbid Bending Area and the Stiffener PI.
- 5) Do not bend the Forbid Bending Area and the Stiffener PI.



18. Warranty

18-1. Incoming inspection

Please inspect the LCM within one month after your receipt.

18-2. Production warranty

Kyocera warrants its LCM for a period of 12 months from the ship date. Kyocera shall, by mutual agreement, replace or re-work defective LCM that is shown to be Kyocera's responsibility.