

ILLUMINANT北極光企業有限公司

PRODUCT SPECIFICATION FOR TFT LCM

CUSTOMER:	
MODEL NO:	IC-B200202-6YFLYA
ACCEPTED BY:	

APPROVED BY:	CHECKED BY:	ORGANIZED BY:
		

☐ **Approval for Specifications Only**

☒ **Approval for Specifications and Sample**

Note: 1. Version of Specifications : 1
2. Others: Rohs Compliment

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RECORDS OF REVISION

DATE	REVISED NO.	REVISED DESCRIPTIONS	PREPARED	CHECKED	APPROVED
2009.04.16	01	FIRST ISSUE			

3. GENERAL SPECIFICATIONS

3-1 SCOPE :

This specification covers the delivery requirements for the liquid crystal display delivered by ILLUMINANT to Customer.

3-2 PRODUCTS :

Liquid Crystal Display Module (LCM)

3-3 MODULE NAME

IC-B200202-6YFLYA

4. FEATURES

- (1) Display Type : STN/YELLOW-GREEN, 6 O'clock, Transflective/Positive
- (2) Driving Method : 1/16 duty, 1/5 bias
- (3) Built-in Controller : SPLC780D
- (4) LED Backlight : LED/Yellow-Green

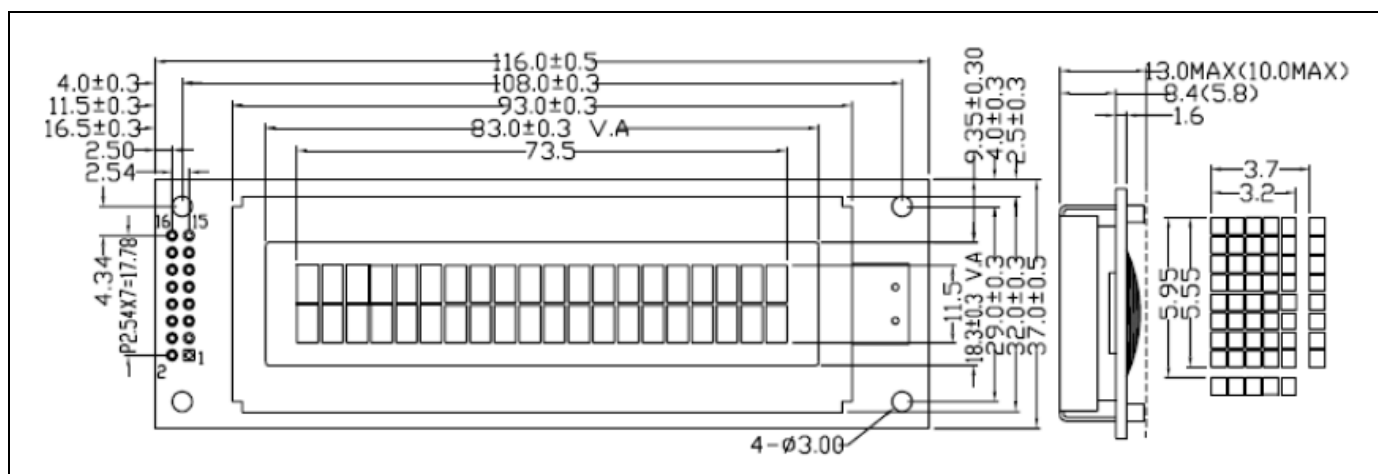
5. MECHANICAL SPECIFICATIONS

ITEM	SPECIFICATIONS	UNIT
MODULE SIZE	116.00(W)X37.00(H)X13.00MAX(D)	mm
VIEWING AREA	83.00(W)X18.30(H)	mm
ACTIVE AREA	73.50(W)X11.50(H)	mm
DOT SIZE	3.20(W)X5.55(H)	mm
DOT PITCH	3.70(W)X5.95(H)	mm
BACKLIGHT	YELLOW-GREEN	--
ASSY.TYPE	COB	--
WEIGHT	TBD	--

NOTES :

LCM should be grounded during handling LCM.

6. OUTLINE DIMENSIONS



7. ABSOLUTE MAXIMUM RATINGS

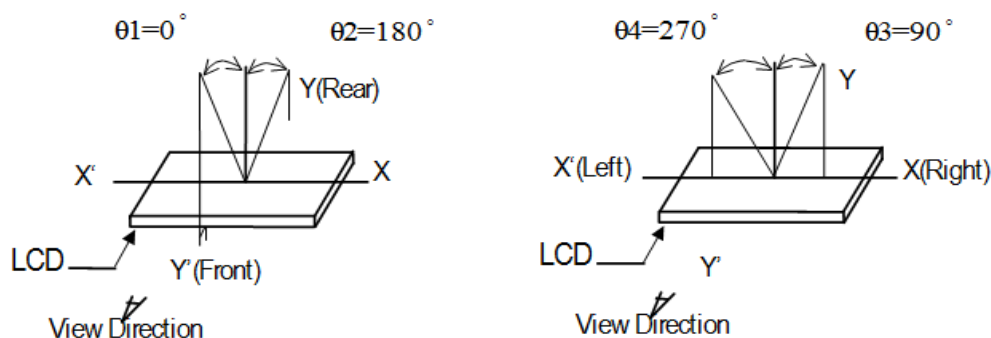
ITEM	SYMBOL	CONDITION	STANDARD VAULE			UNIT
			MIN	TYP	MAX	
Power Supply for Logic	V _{DD}	Ta=25°C	-0.3	-	7.0	V
Input Voltage	V _{IN}	Ta=25°C	-0.3	-	V _{DD} +0.3	V
Operating Temperature	T _{OP}	-	-20	-	+70	°C
Storage Temperature	T _{ST}	-	-30	-	+80	°C
Storage Humidity	H _D	Ta<40°C	-	-	90	%RH

8. ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Supply Voltage (Logic)	VDD-VSS	-	4.5	5.0	5.5	V
Supply Voltage (LCD)	VLCD	VDD=5.0V(25°C)	-	4.7	-	V
Input Signal Voltage	V-IH	“H” Level	0.2VDD	-	0.8VDD	V
	V-IL	“L” Level	-0.3	-	0.8	V
Output Signal Voltage	V-OH	“H” Level	VDD-0.6	-	-	V
	V-OL	“L” Level	0	-	GND+0.6	V
Supply Current (Logic)	IDD	VDD=3.3V	-	2.0	3.0	mA
Backlight Voltage	V-BL	-	-	4.2	-	V
Backlight Current	I-BL	-	-	-	-	mA

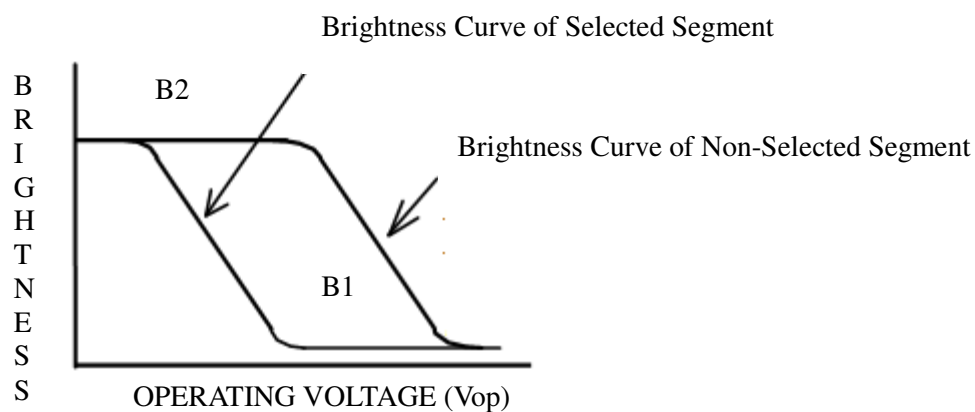
9. OPTICAL CHARACTERISTICS

9-1 DEFINITION OF VIEWING ANGLE

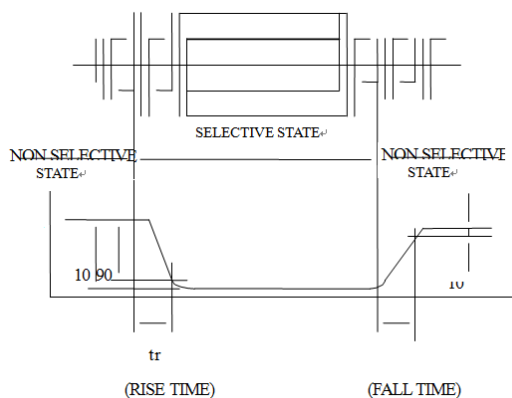


9-2 DEFINITION OF CONTRAST RATIO

$$CR = \frac{\text{Brightness of Non-selected Segment (B2)}}{\text{Brightness of Selected Segment (B1)}}$$

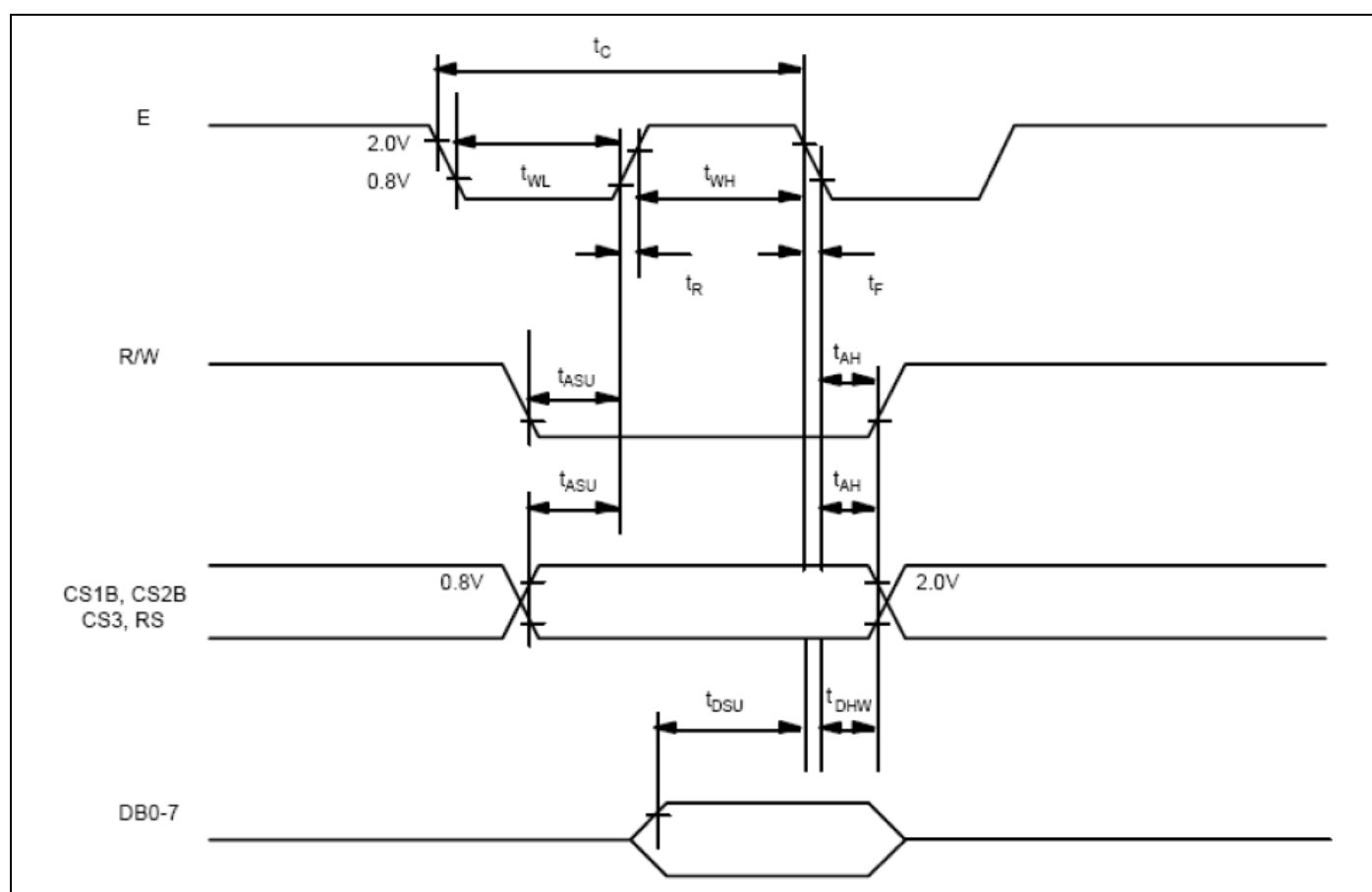


9-3 DEFINITION OF RESPONSE TIME

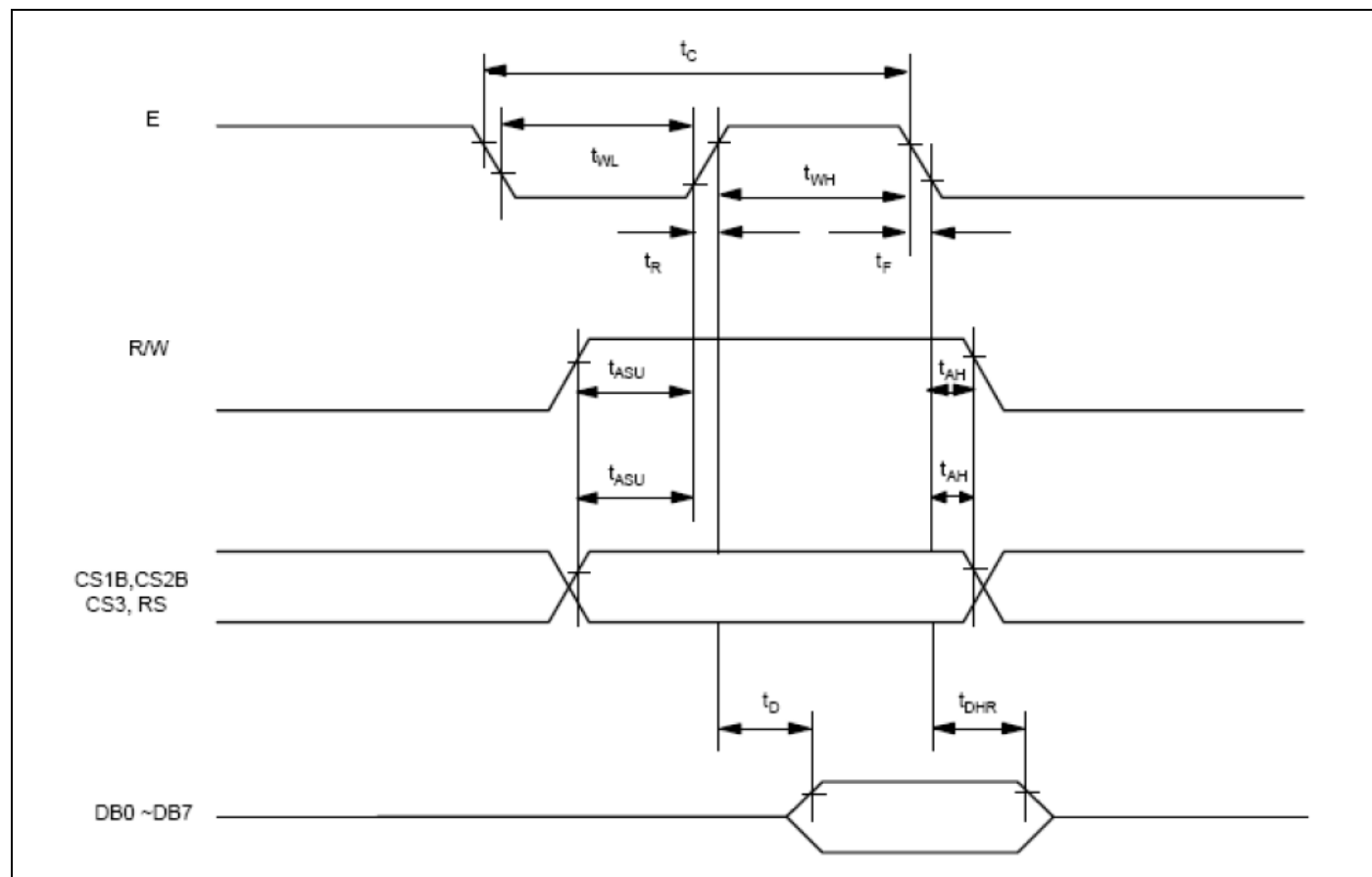


10. TIMING CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX	UNIT
E Cycle	t_C	1000	-	-	ns
E High Level Width	t_{WH}	450	-	-	ns
E Low Level Width	t_{WL}	450	-	-	ns
E Rise Time	t_R	-	-	25	ns
E Fall Time	t_F	-	-	25	ns
Address Set-up Time	t_{ASU}	140	-	-	ns
Address Hold Time	t_{AH}	10	-	-	ns
Data Set-up Time	t_{DSU}	200	-	-	ns
Data Delay Time	t_D	-	-	320	ns
Data Hold Time(Write)	t_{DHW}	10	-	-	ns
Data Hold Time(Read)	t_{DHR}	20	-	-	ns



<Write Timing>



<Read Timing>

11. PIN ASSIGNMENT

PIN NO.	FUNCTION DESCRIPTIONS	SYMBOL
1	Ground for Logic	VSS
2	Power Supply for Logic	VDD
3	Power Supply for LCD Drive	V0
4	Register Selection (H:Data Register, L:Instruction Register)	RS
5	Read/Write Selection (H:Read, L:Write)	R/W
6	Enable Signal for LCM	E
7	Data Bit 0	DB0
8	Data Bit 1	DB1
9	Data Bit 2	DB2
10	Data Bit 3	DB3
11	Data Bit 4	DB4
12	Data Bit 5	DB5
13	Data Bit 6	DB6
14	Data Bit 7	DB7
15	Connect to the Positive of Backlight	A
16	Connect to the Negative of Backlight	K

12. RELIABILITY

ITEM	CONDITIONS	CRITERION
Operating Temperature	High Temperature +60°C 200hrs	No defect in displaying and operational function
	Low Temperature -10°C 200hrs	
Storage Temperature	High Temperature +70°C 200hrs	No defect in displaying and operational function
	Low Temperature -20°C 200hrs	
Humidity	50°C 90%RH 96hrs	No defect in displaying and operational function
Vibration	*10-22Hz → 1.5mmp-p *22-500Hz → 1.5G *Total 0.5hrs	No defect in displaying and operational function
Static Electricity	VS=800V, RS=1.5K, CS=100pF 1time	No defect in displaying and operational function

13. PRECAUTION FOR USE

The following precaution should be followed, since this module contains precise parts.

- (1) Do not store module for an extended periods of time under the conditions of high temperature and high humidity.
- (2) Avoid using or storing the module in areas that expose it to direct sunlight or ultraviolet rays.
- (3) Use protective finger covers when handling the module to avoid scratching or staining the module.
- (4) Care should be taken not to expose the module to static electricity, because the module contains C-MOS LSI's.
- (5) The LSI is sensitive to light. The user's product should be designed so that LSI is not exposed to any light during operation.
- (6) During installation, cover the display area with acrylic protection plates to protect the polarizer plate and LCD cells.
- (7) Do not apply any excessive shocks to the module because the module contains sensitive LCD cells. Do not use a module, which has experienced strong mechanical shock.
- (8) Care should be taken when the power supply turns on as following.
 - (a) Do not apply any input signals before the supplying voltage is applied.
 - (b) Do not turn off the power supply while any input signals are applied.

CAUTION

- (1) Dangerous. Do not shock glass because glass can break.
- (2) If module breaks, do not touch it directly.
(Glass could stick or cut skin)
- (3) Do not swallow Liquid Crystal.
(In case of broken LCD panel, do not swallow liquid crystal even if there is no proof that liquid crystal is poisonous)
- (4) If liquid crystal is exposed to skin, wash the area thoroughly with alcohol or soap.
- (5) When disposing of the product, please observe industrial waste disposal laws in each country and district.
- (6) In case of injury, give immediate treatment and consult with a doctor.
- (7) This product is constructed precisely. Don't disassemble or modify.

※ Neglecting this mark can cause injury to humans and damage to materials.