Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WG12232D-YYH-N#J

APPROVED BY: (FOR CUSTOMER USE ONLY)	**PCB VERSION:** **DATA:**

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY

VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2022/07/26		First issue

Represented by:
FIRST Components s.r.l.
www.first-components.com
sales@first-components.com
+39 0332 1888005

General Specification

Item	Dimension	Unit
Number of dots	122 x 32	—
Module dimension	59.0 x 29.3 x 5.5 (MAX)	mm
View area	52.0 x 15.0	mm
Active area	45.72 x 11.97	mm
Dot size	0.345 x 0.345	mm
Dot pitch	0.375 x 0.375	mm
LCD type	STN Positive, Yellow Green Transflective (In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.)	
Duty	1/32	
View direction	6 o'clock	
Backlight Type	LED ,Yellow Green	
IC	AIP31520	
Interface	68 series	

Absolute Maximum Ratings

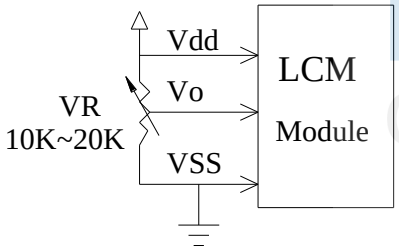
Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_I	-0.3	—	V_{DD}+0.3	V
Supply Voltage For Logic	V_{DD}-V_{SS}	-0.3	—	+6.0	V
LCD bias voltage	V_{LCD}	3.5	—	13	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	4.5	5.0	5.5	V
Supply Voltage For LCD * Note	V_{DD}-V_0	Ta=-20℃	—	—	5.8	V
		Ta=25℃	4.2	4.35	4.5	V
		Ta=+70℃	3.9	—	—	V
Input High Volt.	V_{IH}	—	2	—	5	V
Input Low Volt.	V_{IL}	—	0	—	+0.8	V
Output High Volt.	V_{OH}	—	4.1	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	V_{SS}	—	V_{SS}+0.4	V
Supply Current	I_{DD}	V_{DD}=5.0V	—	0.5	1.5	mA

Please avoid the voltage difference between the VDD voltage level of the IC and the external unit such as MCU.

* Note: Please design the VOP adjustment circuit on customer's main board



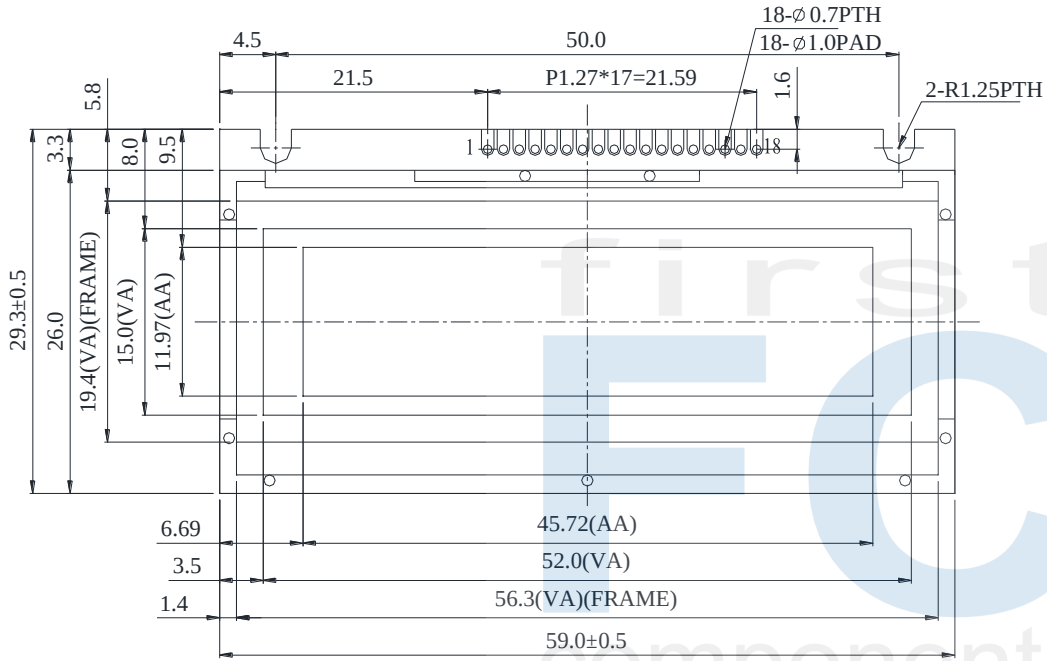
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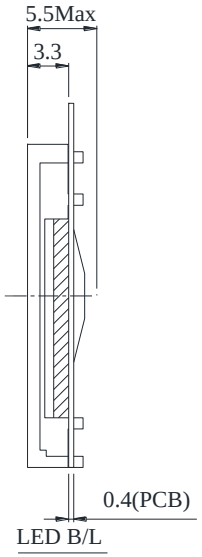
Interface Pin Function

Pin No.	Symbol	Level	Description
1	/VLED	0V	B/L Selected
2	VSS	0V	Ground
3	VDD	5.0V	Power supply for logic
4	Vo	(Variable)	Contrast Adjustment
5	A0	H/L	H : Data L : Instruction
6	E1	H/L	Chip select signal for IC1 (left 61*32 dots) active “H”
7	E2	H/L	Chip select signal for IC2 (right 61*32 dots) active “H”
8	DB0	H/L	Data bus line
9	DB1	H/L	Data bus line
10	DB2	H/L	Data bus line
11	DB3	H/L	Data bus line
12	DB4	H/L	Data bus line
13	DB5	H/L	Data bus line
14	DB6	H/L	Data bus line
15	DB7	H/L	Data bus line
16	R/W	H/L	H : Read ; L : Write
17	NC	—	No connection
18	NC	—	No connection

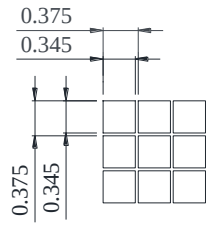
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Contour Drawing &Block Diagram





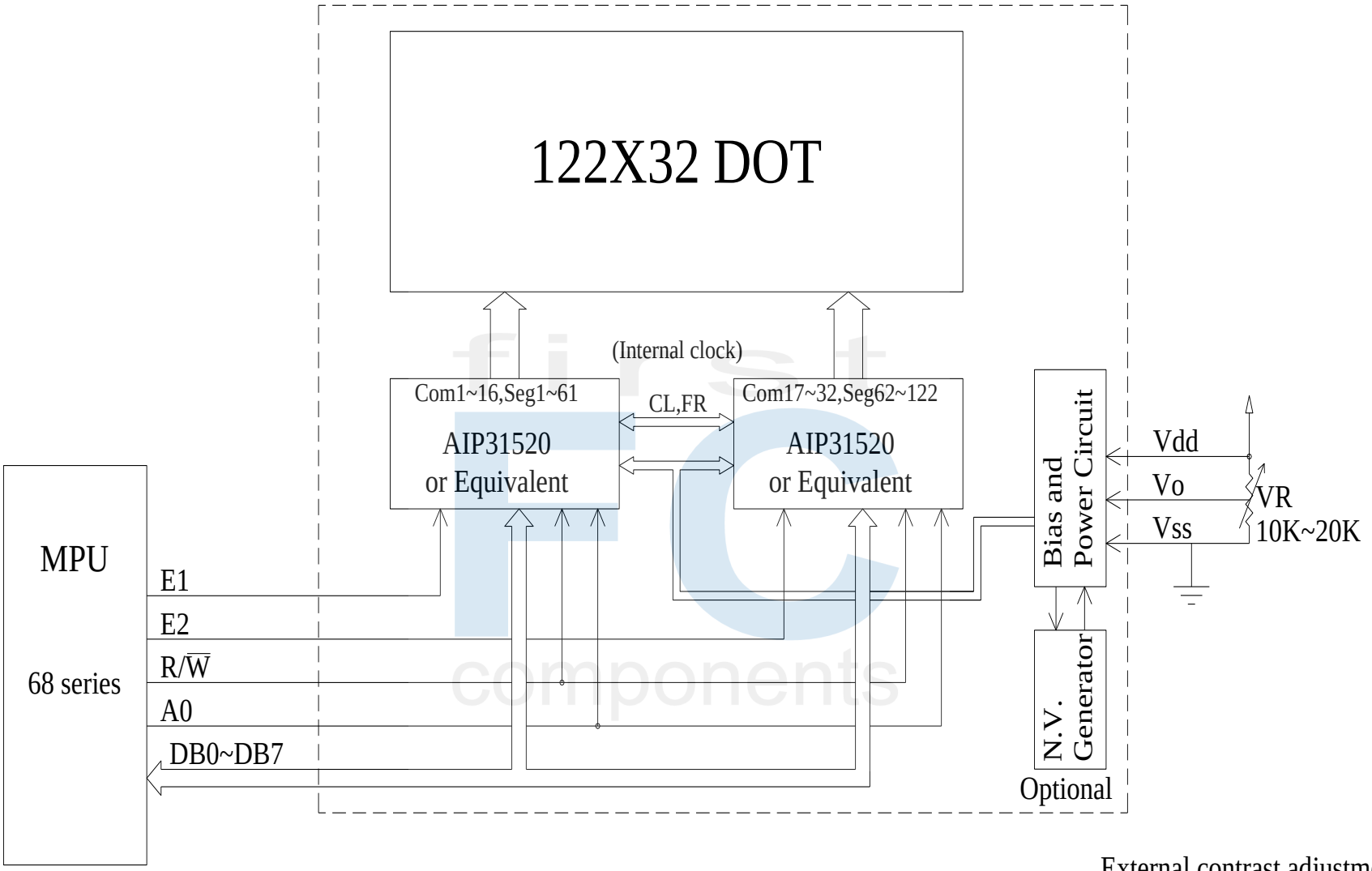
PIN NO.	SYMBOL
1	$\overline{VLED}$
2	VSS
3	VDD
4	VO
5	AO
6	E1
7	E2
8	DB0
9	DB1
10	DB2
11	DB3
12	DB4
13	DB5
14	DB6
15	DB7
16	R/$\overline{W}$
17	NC
18	NC



DOT SIZE
SCALE 15/1

The non-specified tolerance of dimension is ±0.3mm.

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External contrast adjustment.