Next Vision Display
Brighten The Future

NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: NG12232BN001WS

Version	0
Engineer	
Date	2022/11/11

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Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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Represented by:

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General Specification

Item	Dimension	Unit
Number of dots	122 x 32	—
Module dimension	84.0 x 44.0 x 13.7 (MAX)	mm
View area	60.0 x 18.0	mm
Active area	53.64 x 15.64	mm
Dot size	0.40 x 0.45	mm
Dot pitch	0.44 x 0.49	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	

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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

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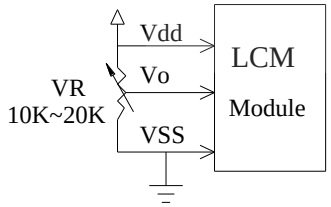
Electrical Characteristics

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℃	4.3	4.45	4.6	V
		Ta=+70℃	3.8	—	—	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	0.8	1.0	1.2	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

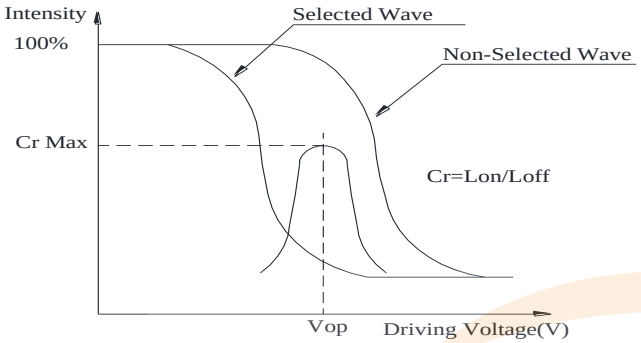
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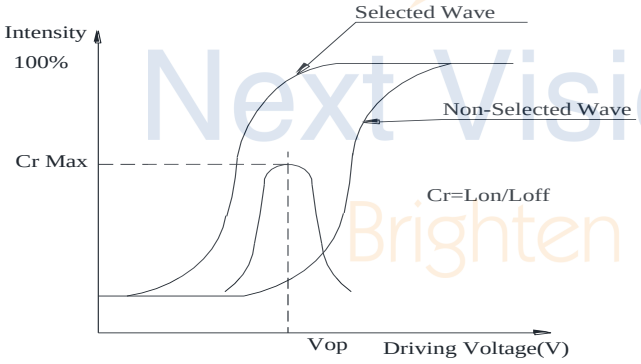


Optical Characteristics

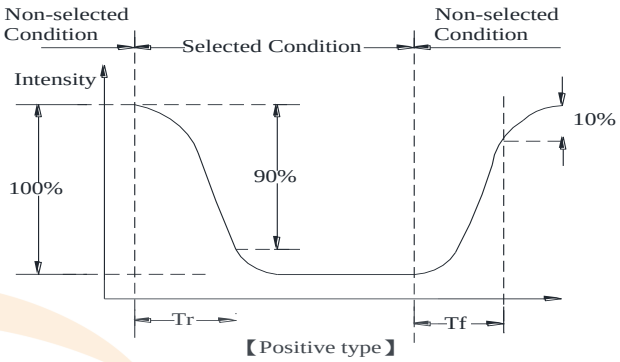
Item	Symbol	Condition	Min	Typ	Max	Unit
View Angle	θ	CR≧2	0	—	20	ψ = 180°
	θ	CR≧2	0	—	40	ψ = 0°
	θ	CR≧2	0	—	30	ψ = 90°
	θ	CR≧2	0	—	30	ψ = 270°
Contrast Ratio	CR	—	—	3	—	—
Response Time	T rise	—	—	150	200	ms
	T fall	—	—	150	200	ms

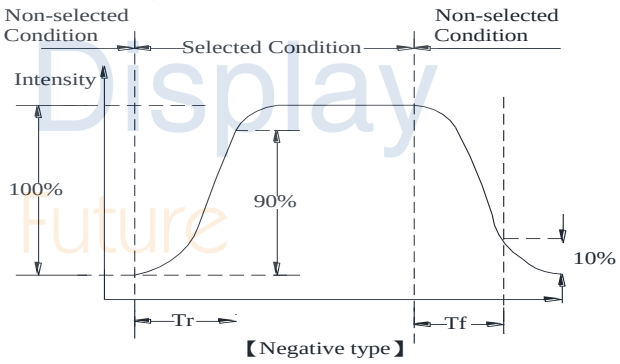
Definition of Operation Voltage (Vop)





Definition of Response Time (Tr , Tf)





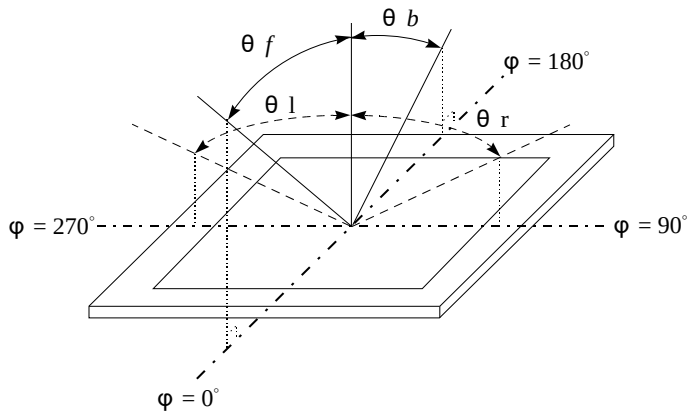
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Conditions :

Operating Voltage : Vop　　Viewing Angle(θ ，φ) : 0°， 0°

Frame Frequency : 64 HZ　　Driving Waveform : 1/N duty , 1/a bias

Definition of viewing angle(CR≧2)

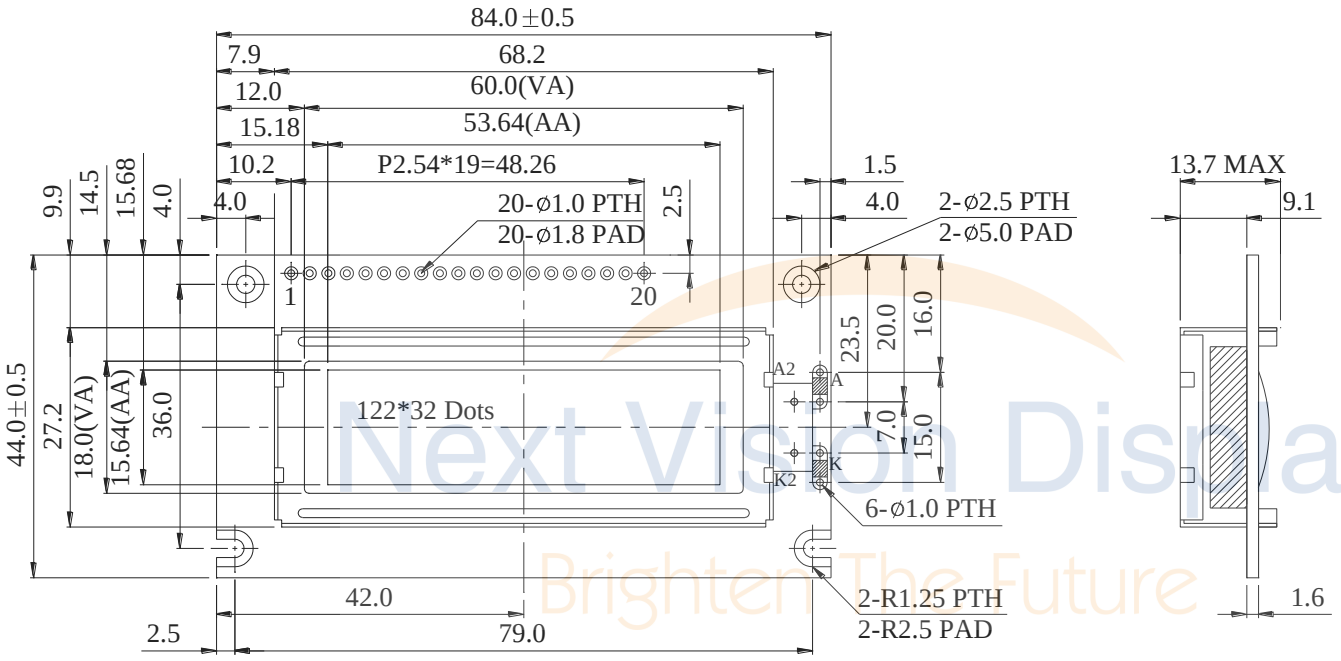


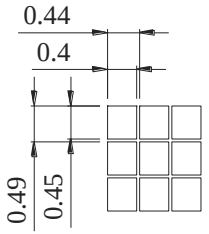
Interface Pin Function

Pin No.	Symbol	Level	Description
1	V_{SS}	0V	GND
2	V_{DD}	5.0V	Power supply for logic
3	Vo	(Variable)	Contrast Adjustment
4	A0	H/L	H : Data L : Instruction
5	CS1	H/L	Chip enable IC1
6	CS2	H/L	Chip enable IC2
7	NC	—	No connection
8	NC	—	No connection
9	R/W	H/L	H : Read ; L : Write (68 series MPU interface only)
10	DB0	H/L	Data bus line
11	DB1	H/L	Data bus line
12	DB2	H/L	Data bus line
13	DB3	H/L	Data bus line
14	DB4	H/L	Data bus line
15	DB5	H/L	Data bus line
16	DB6	H/L	Data bus line
17	DB7	H/L	Data bus line
18	RES	H/L	H → L: The LCM be reset
19	A	—	Power Supply for LED backlight (+)
20	K	—	Power Supply for LED backlight (-)

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Contour Drawing & Block Diagram



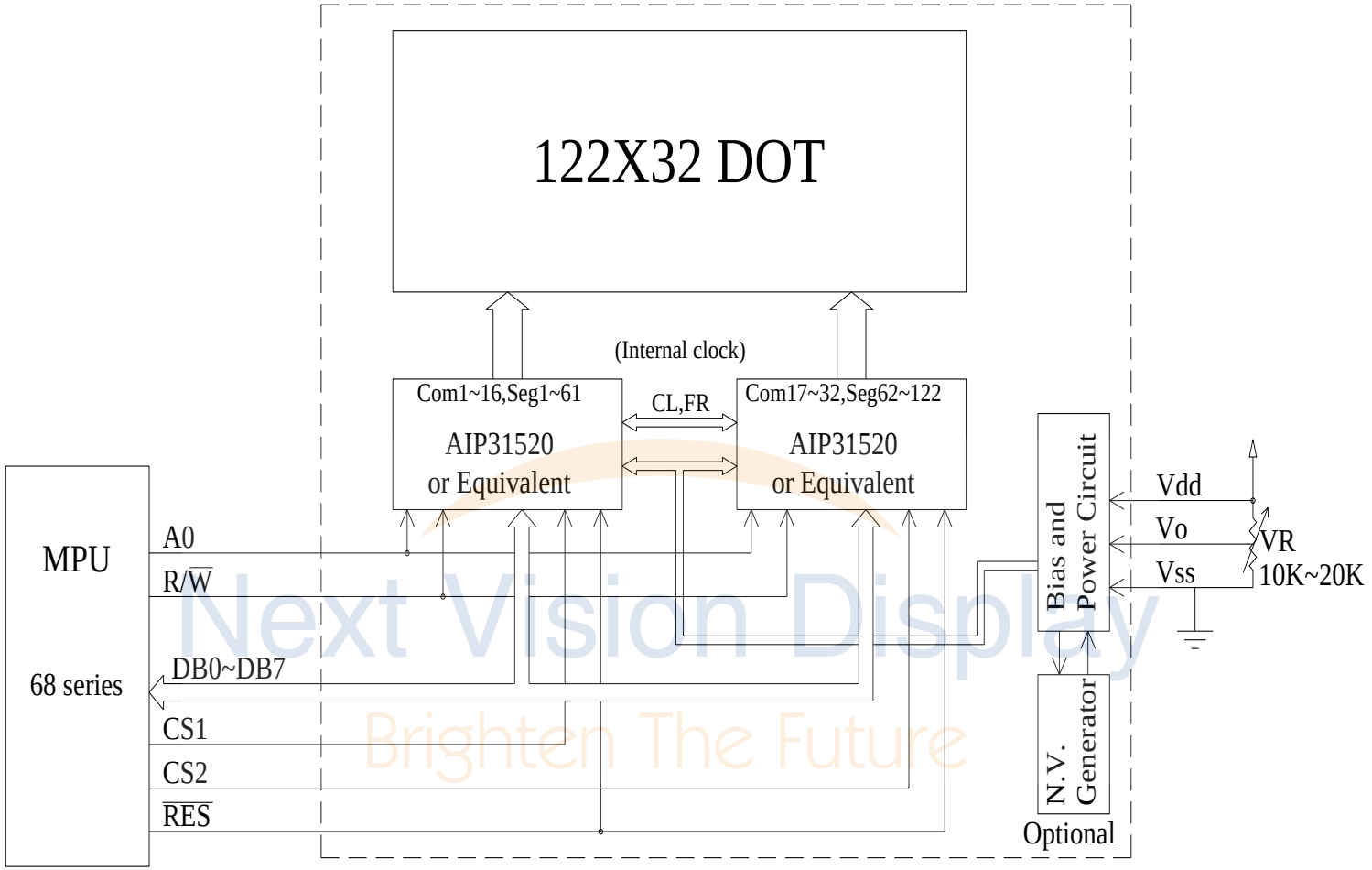


DOT SIZE
SCALE 10/1

PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	A0
5	CS1
6	CS2
7	NC
8	NC
9	R/$\overline{W}$
10	DB0
11	DB1
12	DB2
13	DB3
14	DB4
15	DB5
16	DB6
17	DB7
18	$\overline{RES}$
19	A
20	K

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

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External contrast adjustment.

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