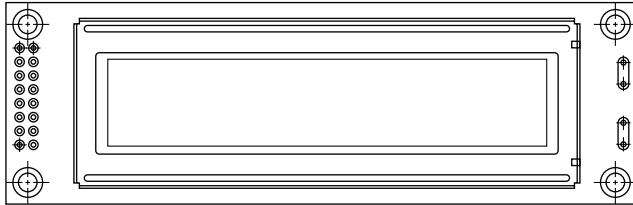


## 192 x 32 Graphic LCD



### FEATURES

- Type: Graphic
- Display format: 192 x 32 dots
- Built-in controller: ST7920
- Duty cycle: 1/32
- + 5 V power supply
- LED can be driver by PIN 15, PIN 16
- Chinese version
- Same size with LCD-020N002A
- Compliant to RoHS directive 2002/95/EC


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	116.0 x 37.0	mm
Viewing Area	85.0 x 18.6	
Dot Size	0.38 x 0.46	
Dot Pitch	0.42 x 0.50	
Mounting Hole	108.0 x 29.0	
Character Size	N/a	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	$V_{DD}$ to $V_{SS}$	4.75	5.0	5.25	V
Input Voltage	$V_I$	0	-	$V_{DD}$	

**Note**

- $V_{SS} = 0$  V,  $V_{DD} = 5.0$  V

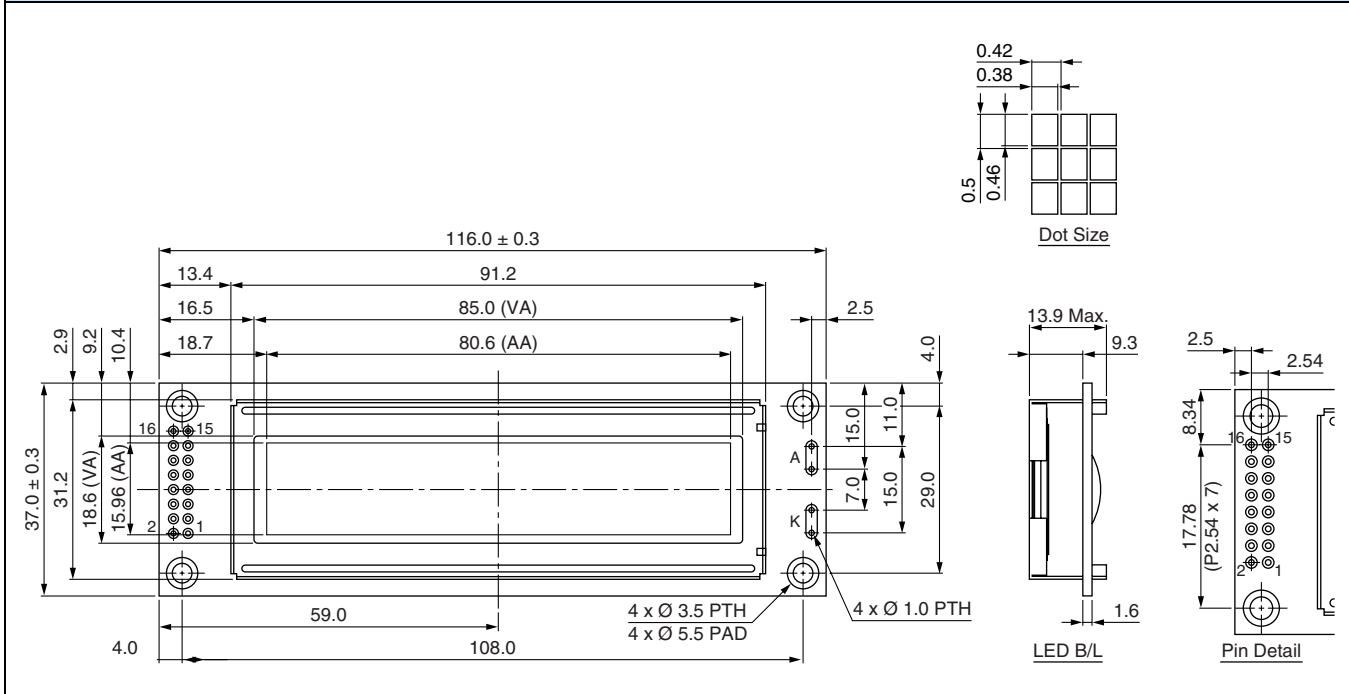
ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	$V_{DD}$	L level	$0.7 V_{DD}$	-	$V_{DD}$	V
	$V_{IO}$	H level	0	-	$0.3 V_{DD}$	
Supply Current	$I_{DD}$	$V_{DD} = +5$ V	-	2.0	-	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{DD}$ to $V_0$	-20 °C	-	-	5.2	V
		0 °C	-	-	4.8	
		25 °C	-	4.5	-	
		50 °C	4.7	-	-	
		70 °C	3.8	-	-	
LED Forward Voltage	$V_F$	25 °C	-	4.2	4.6	V
LED Forward Current	$I_F$	25 °C	-	210	420	mA
EL Power Supply Current	$I_{EL}$	$V_{EL} = 110 V_{AC}$ , 400 Hz	-	-	-	mA

OPTIONS									
PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
	x	x	x	x		x	x	x	

For detailed information, please see the "Product Numbering System" document.

**INTERFACE PIN FUNCTION**

PIN NO.	SYMBOL	FUNCTION
1	V <sub>SS</sub>	Ground
2	V <sub>DD</sub>	Power supply for logic
3	V <sub>0</sub>	NC
4	RS	Register select signal
5	R/ $\bar{W}$	H/L read/write signal
6	E	H → L enable signal
7	DB0	Data bus line
8	DB1	Data bus line
9	DB2	Data bus line
10	DB3	Data bus line
11	DB4	Data bus line
12	DB5	Data bus line
13	DB6	Data bus line
14	DB7	Data bus line
15	A	Power supply for B/L
16	K	Power supply for B/L

**DIMENSIONS** in millimeters



## Disclaimer

All product specifications and data are subject to change without notice.

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