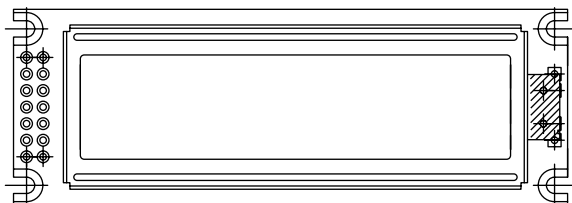


# 144 x 32 Graphic LCD



## FEATURES

- Type: Graphic
- Display format: 144 x 32 dots
- Built-in controller: (ST7920)
- Duty cycle: 1/32
- + 5 V power supply
- LED can be driven by pin 15, pin 16 or A, K
- Chinese version
- Same size with LCD-016N002D series
- Compliant to RoHS directive 2002/95/EC


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	85.0 x 30.0 x 13.2	mm
Viewing Area	66.0 x 16.0	
Dot Size	0.38 x 0.38	
Dot Pitch	0.42 x 0.42	
Mounting Hole	N/a	
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	$V_{DD}$	-	4.5	5.0	5.5	V
Supply Current	$I_{DD}$	$V_{DD} = +5$ V	-	1.2	1.5	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{DD}$ to $V_0$	- 20 °C	-	-	6.0	V
		25 °C	-	4.7	-	
		70 °C	4.0	-	-	
CCFL Starting Voltage	$V_{FLS}$	25 °C	-	-	-	
CCFL Starting Voltage	$V_{FLD}$	25 °C	-	-	-	
CCFL Starting Voltage	$I_{FLD}$	$V_{FQ} = 450$ V <sub>RMS</sub> , 30 kHz	-	-	-	
LED Forward Voltage	$V_F$	25 °C	-	4.0	4.3	V
LED Forward Current - Array	$I_F$	25 °C	-	130	260	mA
LED Forward Current - Edge	$I_{EF}$	$V_{EL} = 110$ V <sub>AC</sub> , 400 Hz	-	-	5.0	

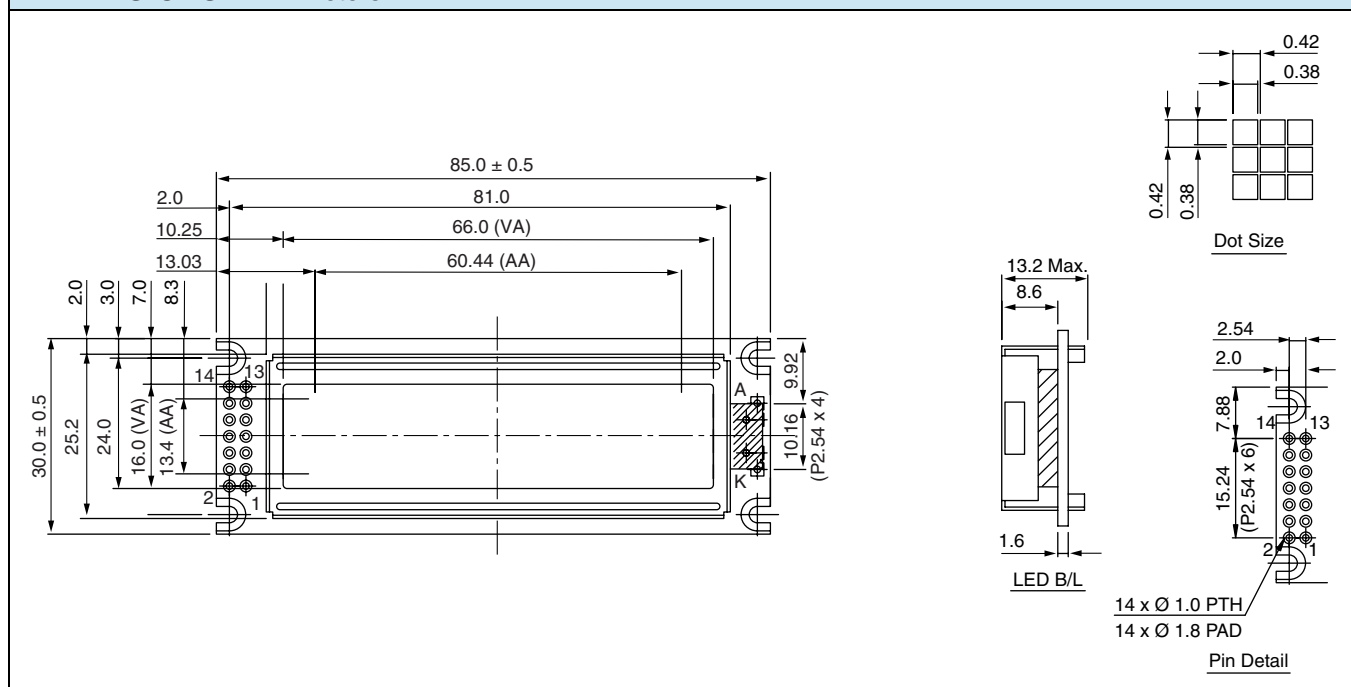
OPTIONS									
PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
	x	x	x	x		x	x	x	

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

## INTERFACE PIN FUNCTION

PIN NO.	SYMBOL	FUNCTION
1	$V_{DD}$	Supply voltage for logic
2	$V_{SS}$	Ground
3	$V_0$	NC
4	RS	Register select signal
5	R/W	H/L read/write signal
6	E	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

## DIMENSIONS in millimeters





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