



**WINSTAR Display Co.,Ltd.**  
**華凌光電股份有限公司**

## SPECIFICATION

**MODULE NO.: WG16032D3**

### General Specification

Item	Dimension	Unit
Number of dots	160 x 32	—
Module dimension	122.0 x 44.0 x 13.6 (MAX)	mm
View area	99.0 x 24.0	mm
Active area	95.95 x 19.15	mm
Dot size	0.55 x 0.55	mm
Dot pitch	0.60 x 0.60	mm
Duty	1/32	
Backlight Type	LED	
IC	ST7920	
Interface	6800	

## Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	$T_{OP}$	-20	—	+70	°C
Storage Temperature	$T_{ST}$	-30	—	+80	°C
Input Voltage	$V_{IN}$	-0.3	—	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	—	5.5	V
Supply Voltage For LCD	$V_O-V_{SS}$	0	—	16.7	V

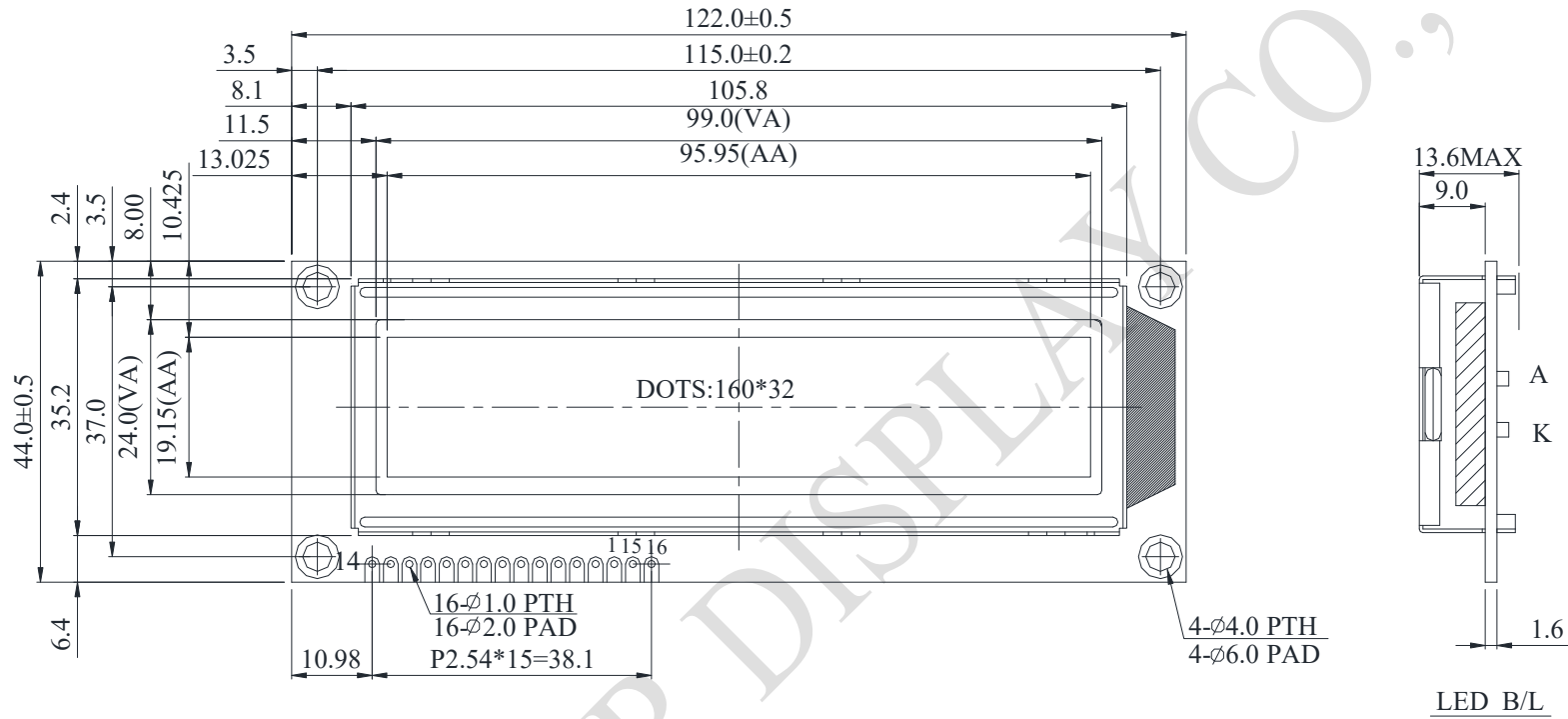
## Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	—	3.0	3.3	3.6	V
Supply Voltage For LCD	$V_O-V_{SS}$	$T_a=-20^{\circ}\text{C}$	—	—	—	V
		$T_a=25^{\circ}\text{C}$	4.6	4.75	4.9	V
		$T_a=+70^{\circ}\text{C}$	—	—	—	V
Input High Volt.	$V_{IH}$	—	$0.7V_{DD}$	—	$V_{DD}$	V
Input Low Volt.	$V_{IL}$	—	-0.3	—	0.6	V
Output High Volt.	$V_{OH}$	—	$0.8 V_{DD}$	—	$V_{DD}$	V
Output Low Volt.	$V_{OL}$	—	—	—	0.1	V
Supply Current	$I_{DD}$	$V_{DD}=3.3\text{V}$	4.48	5.15	5.73	mA

# Interface Pin Function

Pin No.	Symbol	Level	Description
1	VSS	0V	GND
2	V <sub>DD</sub>	3.3V	Supply voltage for logic
3	V <sub>o</sub>	—	Contrast Adjustment
4	RS	H/L	Register select signal
5	R/W	H/L	H: read data L: write data
6	E	H/L	Enable signal
7	DB0	H/L	Data bus line
8	DB1	H/L	Data bus line
9	DB2	H/L	Data bus line
10	DB3	H/L	Data bus line
11	DB4	H/L	Data bus line
12	DB5	H/L	Data bus line
13	DB6	H/L	Data bus line
14	DB7	H/L	Data bus line
15	Vout	—	Positive Voltage Output
16	NC	—	No connection

# Contour Drawing



PIN NO.	SYMBOL
1	Vss
2	Vdd
3	VO
4	RS
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	Vout
16	NC

The non-specified tolerance of dimension is  $\pm 0.3 \text{ mm}$ .

