



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

## SPECIFICATION

**MODULE NO.:**

**WO1602I**

### General Specification

Item	Dimension	Unit
Number of Characters	16 characters x 2 Lines	—
Module dimension	51.2 x 20.7 x 6.3	mm
View area	40.0 x 10.0	mm
Active area	38.0 x 8.0	mm
Dot size	0.36 x 0.43	mm
Dot pitch	0.41 x 0.48	mm
Character size	2.00 x 3.79	mm
Character pitch	2.40 x 4.19	mm
Duty	1/16 , 1/5 Bias	
Backlight Type	LED	
IC	ST7032i	
Interface	I2C	

## Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T <sub>OP</sub>	-20	—	+70	°C
Storage Temperature	T <sub>ST</sub>	-30	—	+80	°C
Input Voltage	V <sub>IN</sub>	-0.3	—	V <sub>DD</sub> +0.3	V
Power Supply Voltage	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	—	+6.0	V
LCD Driver Voltage	V <sub>LCD</sub>	2.7	—	7.0	V

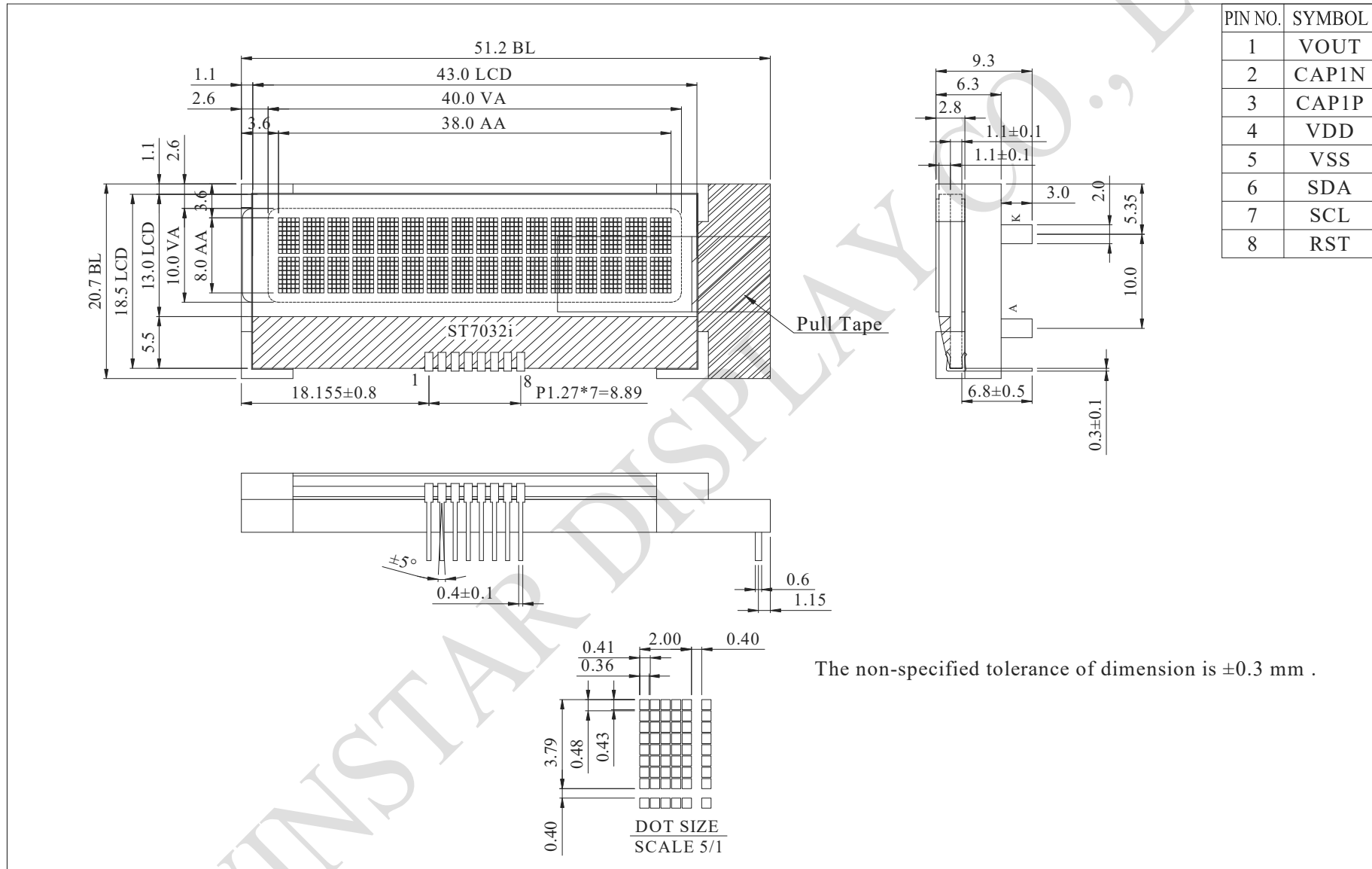
## Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	—	3	3.3	5 (Note2)	V
Supply Voltage For LCD	V <sub>LCD</sub>	Ta=-20°C	—	—	—	V
		Ta=25°C	—	4.5	—	V
		Ta=70°C	—	—	—	V
Input High Volt.	V <sub>IH</sub>	—	0.7 V <sub>DD</sub>	—	V <sub>DD</sub>	V
Input Low Volt.	V <sub>IL</sub>	—	—	—	0.2 V <sub>DD</sub>	V
Output High Volt.	V <sub>OH</sub>	—	0.8 V <sub>DD</sub>	—	V <sub>DD</sub>	V
Output Low Volt.	V <sub>OL</sub>	—	—	—	0.2V <sub>DD</sub>	V
Supply Current(No include LED Backlight)	I <sub>DD</sub>	—	—	0.17	—	mA

# Interface Pin Function

Pin No.	Symbol	Level	Description
1	VOUT		DC/DC voltage converter. Connect a capacitor between this terminal and VIN when the built-in booster is used.
2	CAPIN		For voltage booster circuit(VDD-VSS) External capacitor about 0.1u~4.7uf
3	CAP1P		
4	VDD	3.0/5.0V	Power supply
5	VSS		GND
6	SDA		(In I2C interface DB7 (SDA) is input data. SDA and SCL must connect to I2C bus (I2C bus is to connect a resistor between SDA/SCL and the power of I2C bus ).
7	SCL		(In I2C interface DB6 (SCL) is clock input. SDA and SCL must connect to I2C bus (I2C bus is to connect a resistor between SDA/SCL and the power of I2C bus ).
8	RST		RESET (Low active)

# Contour Drawing



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