



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

## SPECIFICATION

**MODULE NO.: WO128128B**

### General Specification

Item	Dimension	Unit
Number of dots	128 x 128	—
Module dimension	68.0 x 72.0 x 6.5	mm
View area	62.0 x 62.0	mm
Active area	55.01 x 55.01	mm
Dot size	0.4 x 0.4	mm
Dot pitch	0.43 x 0.43	mm
Duty	1/128 DUTY, 1/12 BIAS	
Backlight Type	LED	
IC	ST75161	
Interface	6800/8080/3/4-Line SPI/IIC	

# 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
Power Supply Voltage	V <sub>DD</sub>	-0.3	—	4.0	V
LCD Power supply voltage	V <sub>0-XV0</sub>	-0.3	—	19	V
Input voltage	V <sub>IN</sub>	-0.3		V <sub>DD</sub> +0.3	V

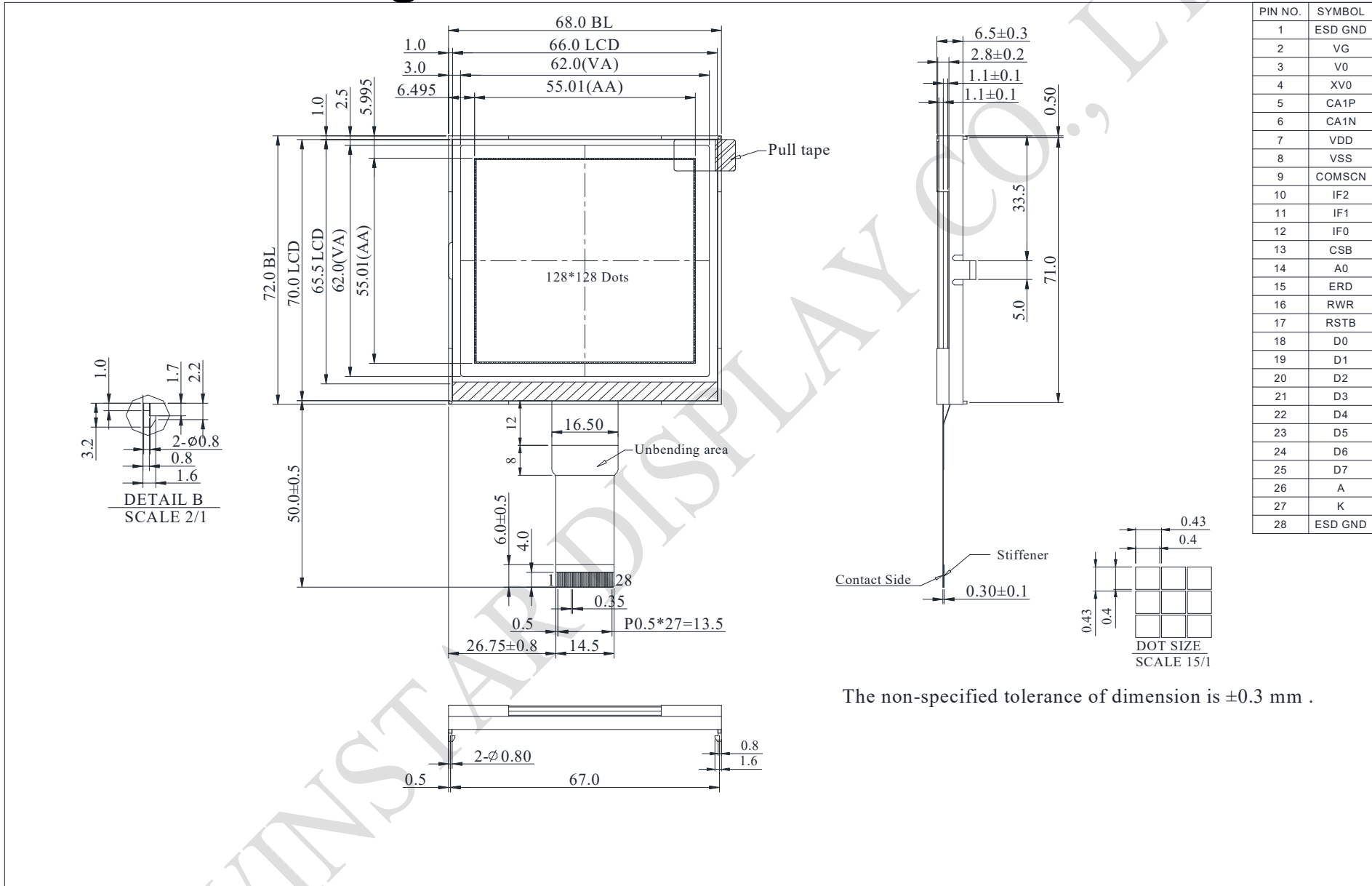
# Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage For Logic	V <sub>DD-VSS</sub>	—	3.0	3.3	3.6	V
Supply Voltage For LCD	V <sub>OP</sub>	T <sub>a</sub> =-20°C	—	—	—	V
		T <sub>a</sub> =25°C	14.8	15.1	15.4	V
		T <sub>a</sub> =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>	—	V <sub>SS</sub>	—	0.3 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>	—	V <sub>SS</sub>	—	0.2 V <sub>DD</sub>	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =3.3V	—	—	2.5	mA

# Interface Pin Function

Pin No.	Symbol	Function
1	ESD GND	ESD Ground
2	VG	VG is the power of SEG-drivers.
3	V0	Positive operating voltage of COM-drivers.
4	XV0	Negative operating voltage of COM-drivers.
5	CA1P	DC/DC voltage converter
6	CA1N	
7	VDD	Power supply
8	VSS	Ground
9	COMSCN	Set scan direction of COM.
10	IF2	These pins select interface operation mode.
11	IF1	
12	IF0	
13	CSB	Chip select input pin.
14	A0	It determines whether the access is related to data or command.
15	ERD	Read / Write execution control pin.
16	RWR	Read / Write execution control pin.
17-24	RSTB	Hardware reset input pin
25	D0-D7	<p>When using 8-bit parallel interface: 8080 or 6800 mode:8 bit bi-directional data bus When using serial interface : 4-line SPI or 3-line SPI mode D[7:4] : fix to "H" by VDD1. D[3:1] : serial input/output data (SDA). D[0] : serial input clock (SCL). D1 to D3 must be connected together (SDA)</p> <p>When using serial interface : I2C interface D[7] : SA[1], I2C slave address bit. Must be connected to VDD1 or VSS1. D[6] : SA[0], I2C slave address bit. Must be connected to VDD1 or VSS1. D[5:4] : fix to "H" by VDD1. D[3:2] : SDA_OUT, serial data and acknowledge output for the I2C interface. D[1] : SDA_IN, serial input data D[0] : SCL, serial input clock . D1 to D3 must be connected together (SDA) CSB must be fixed to "L" by VSS1.</p>
26	A	Anode input for LED backlight.
27	K	Cathode input for LED backlight
28	ESD GND	ESD Ground

# Contour Drawing



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