Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

MODULE NO.: WO2004C

General Specification

Item	Dimension	Unit
Module dimension	68.3 x 36.4 x 6.0	mm
View area	60.5 x 22.18	mm
Active area	58.5 x 20.18	mm
Dot size	0.45x 0.54	mm
Dot pitch	0.50 x 0.59	mm
Character size	2.45 x 4.67	mm
Character pitch	2.95 x 5.17	mm
Duty	1/33DUTY,1/6BIAS	
Backlight Type	LED	
IC	IST3602	
Interface	I2C	

Represented by:
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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	–	+70	℃
Storage Temperature	TST	-30	–	+80	℃
Input Voltage	VIN	-0.3	–	V_{DD}+0.3	V
Power Supply Voltage	V_{DD}	-0.3	–	4.0	V
LCD Driver Voltage	VLCD	-0.3	–	18.0	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}	–	2.7	3.0	3.3	V
Supply Voltage For LCD	V_O-V_{SS}	Ta=-20℃	–	–	–	V
		Ta=25℃	7.6	7.8	8.0	V
		Ta=70℃	–	–	–	V
Input High Volt.	V_{IH}	–	0.8 V_{DDIO}	–	V_{DD}	V
Input Low Volt.	V_{IL}	–	V_{SS}	–	0.2 V_{DD}	V
Output High Volt.	V_{OH}	–	0.8 V_{DDIO}	–	V_{DD}	V
Output Low Volt.	V_{OL}	–	–	–	0.2 V_{DD}	V
Supply LCM current	IDD	VDD=3.0V	–	0.5	–	mA

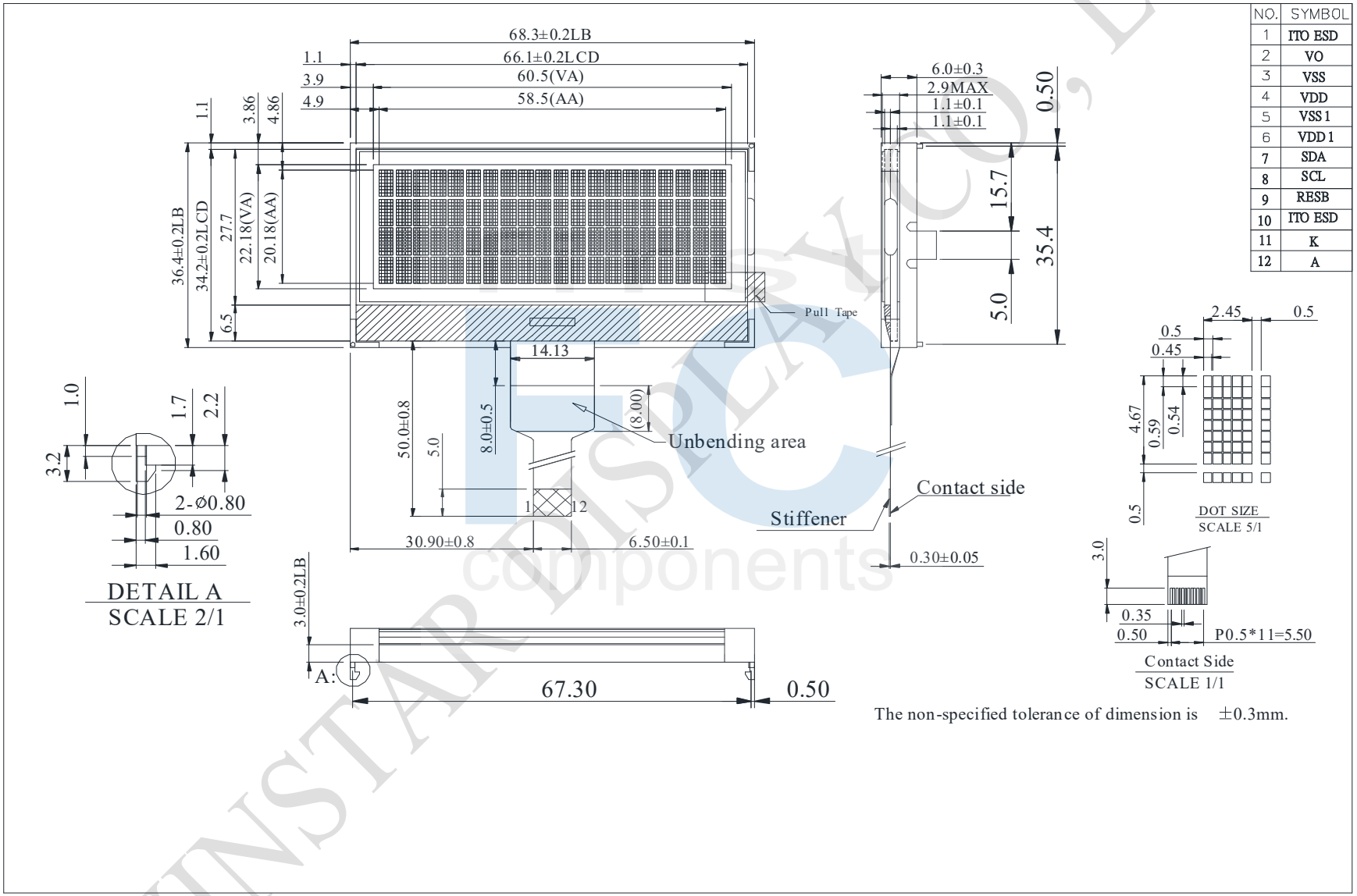
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Interface Pin Function

Pin	Symbol	Function Description
1	ITO ESD	Ground
2	V0	LCD Power Supply
3	VSS	Ground(VSS2&VSS3)
4	VDD	Power Supply(VDD2&VDD3)
5	VSS1	Ground(VSS1)
6	VDD1	Power Supply(VDD1)
7	SDA	Serial input data
8	SCL	Serial input clock
9	RESB	Hardware Reset input pin
10	ITO ESD	Ground
11	K	LED-
12	A	LED+

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Contour Drawing



NO.	SYMBOL
1	ITO ESD
2	VO
3	VSS
4	VDD
5	VSS1
6	VDD1
7	SDA
8	SCL
9	RESB
10	ITO ESD
11	K
12	A

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