WINSTAR Display

OLED SPECIFICATION

Model No:

WEA160128W#BP3N00000-FC

Represented by:

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SPECIFICATION Version: 0

CUSTOMER :	
MODULE NO. :	WEA160128W#BP3N00000-FC

APPROVED BY: (FOR CUSTOMER USE ONLY)	

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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RELEASE DATE:			

■APPROVAL FOR SPECIFICATIONS ONLY

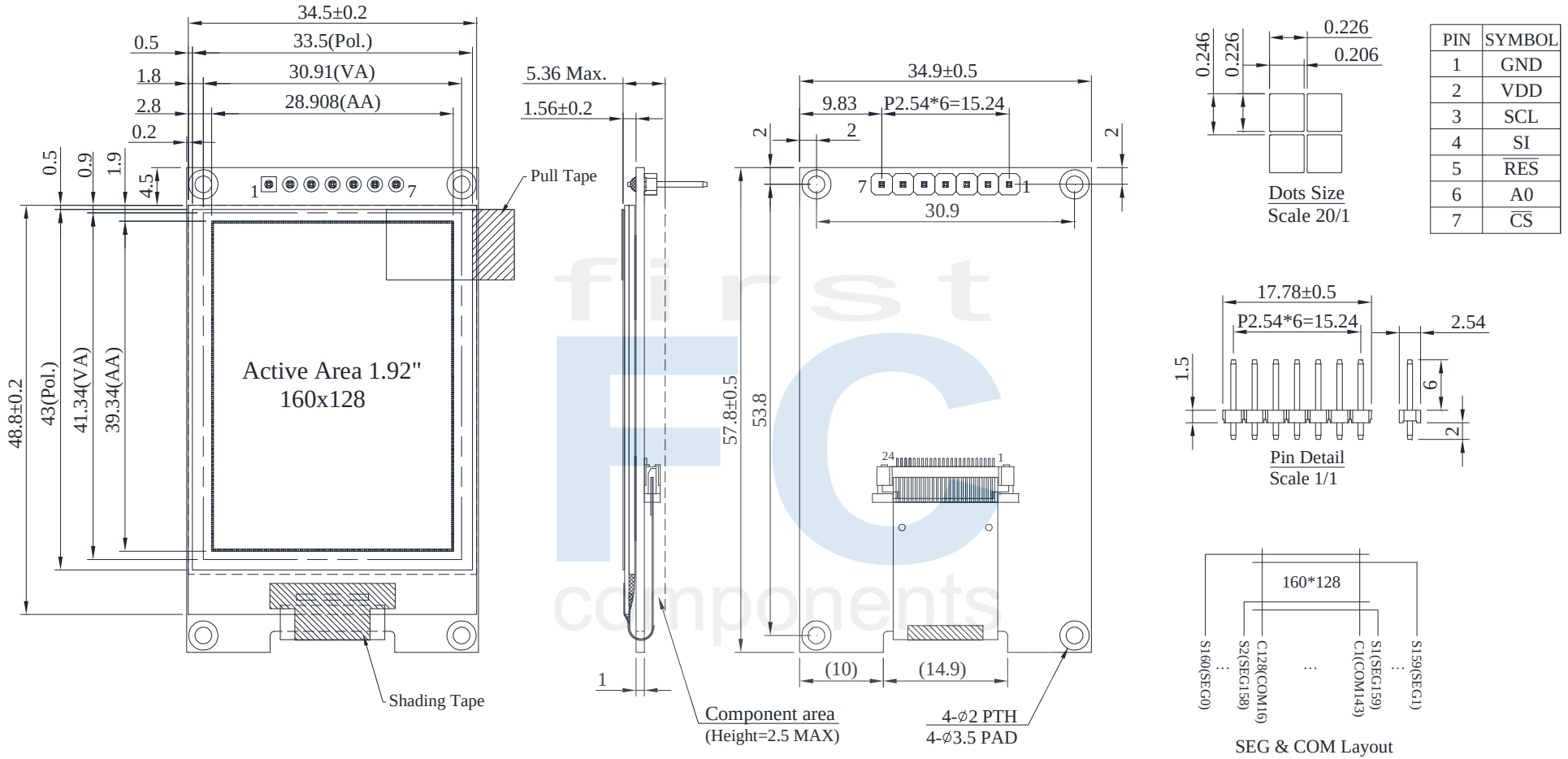
□APPROVAL FOR SPECIFICATIONS AND SAMPLE

2.General Specification

Item	Dimension	Unit
Dot Matrix	160 x 128 Dots	–
Module dimension	34.90 × 57.80 × 5.36 Max.	mm
Active Area	28.908 x 39.34	mm
Pixel Size	0.206 × 0.226	mm
Pixel Pitch	0.226 x 0.246	mm
Display Mode	Passive Matrix	
Display Color	White	
Drive Duty	1/128 Duty	
Gray Scale	4 bits	
OLED IC	CH1120	
OLED Interface	4-Wire SPI	
Size	1.92 inch	

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3. Contour Drawing & Block Diagram



PIN	SYMBOL
1	GND
2	VDD
3	SCL
4	SI
5	$\overline{RES}$
6	A0
7	$\overline{CS}$

The non-specified tolerance of dimension is ±0.3 mm .

4.Interface Pin Function

No.	Symbol	Function
1	GND	Ground for logic and analog. This pad should be connected to GND externally.
2	VDD	Power supply for logic and input/output
3	SCL	serial clock input
4	SI	serial data input
5	$\overline{RES}$	This is a reset signal input pad. When RES is set to “L”, the settings are initialized. The reset operation is performed by the RES signal level. This pin internal pull high.
6	A0	This is the Data/Command control pad that determines whether the data bits are data or a command. A0 = “H”: the inputs at D0 and D1 are treated as display data. A0 = “L”: the inputs at D0 and D1 are transferred to the command registers.
7	$\overline{CS}$	This pad is the chip select input. When CS = “L”, then the chip select becomes active, and data/command I/O is enabled.

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5.Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Supply Voltage for Logic	VDD	-0.3	6.5	V	1, 2
Operating Temperature	TOP	-40	+80	°C	—
Storage Temperature	TSTG	-40	+85	°C	—

Note ：

1. All the above voltages are on the basis of “VSS = 0V”.
2. When this module is used beyond the above absolute maximum ratings, permanent breakage of the module may occur. Also, for normal operations, it is desirable to use this module under the conditions according to Section 6 ‘’Electrical Characteristics’’. If this module is used beyond these conditions, malfunctioning of the module can occur and the reliability of the module may deteriorate.
3. The absolute limit temperature was verified according to the test conditions of reliability test (See section 9. Reliability) , and module was met all criteria.
4. The defined temperature ranges do not include the polarizer. The maximum withstood temperature of the polarizer should be 80 °C.

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6.Electrical Characteristics

6.1 DC Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VDD	—	3.0	3.3	5.2	V
Input High Volt.	VIH	—	0.8xVDD	—	VDD	V
Input Low Volt.	VIL	—	VSS	—	0.2xVDD	V
Output High Volt.	VOH	IOH=-0.5mA	0.8xVDD	—	VDD	V
Output Low Volt.	VOL	IOL=0.5mA	VSS	—	0.2xVDD	V
Display 50% Pixel on	IDD	VDD=3.3V	—	160	240	mA

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7.Optical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
View Angle	(V)θ	—	160	—	—	deg
	(H)φ	—	160	—	—	deg
Contrast Ratio	CR	Dark	10,000:1	—	—	—
Response Time	T rise	—	—	10	—	μs
	T fall	—	—	10	—	μs
Display with 50% checkerboard Brightness			80	100	—	cd/m^2
CIEx(White)		(CIE1931)	0.24	0.28	0.32	—
CIEy(White)		(CIE1931)	0.28	0.32	0.36	—

Note：50% checkerboard means half of the display area turn on & half area turn off, shown as a checkerboard.

