LCD / LCM SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

SPECIFICATION

MODULE NO.: WG240128E-TFH-VZ#

General Specification

Item	Dimension	Unit
Number of dots	240 x 128	—
Module dimension	144.0 x 104.0 x 14.3(MAX)	mm
View area	114.0 x 64.0	mm
Active area	107.98 x 57.58	mm
Dot size	0.43 x 0.43	mm
Dot pitch	0.45 x 0.45	mm
Duty	1/128	
Backlight Type	LED	
IC	RA6963	
Interface	80 series	

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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	–	+70	℃
Storage Temperature	T_{ST}	-30	–	+80	℃
Input Voltage	V_{IN}	-0.3	–	V_{DD}+0.3	V
Supply Voltage For Logic	V_{DD}-V_{SS}	-0.3	–	+7.0	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	–	4.5	5.0	5.5	V
Supply Voltage For LCD	V_{DD}-V_0	Ta=-20℃	–	–	21.7	V
		Ta=25℃	18.9	19.5	20.1	V
		Ta=70℃	17.6	–	–	V
Input High Volt.	V_{IH}	–	0.8V_{DD}	–	V_{DD}	V
Input Low Volt.	V_{IL}	–	0	–	0.15 V_{DD}	V
Output High Volt.	V_{OH}	–	V_{DD}-0.3	–	V_{DD}	V
Output Low Volt.	V_{OL}	–	0	–	0.3	V
Supply Current	I_{DD}	–	45	55	60	mA

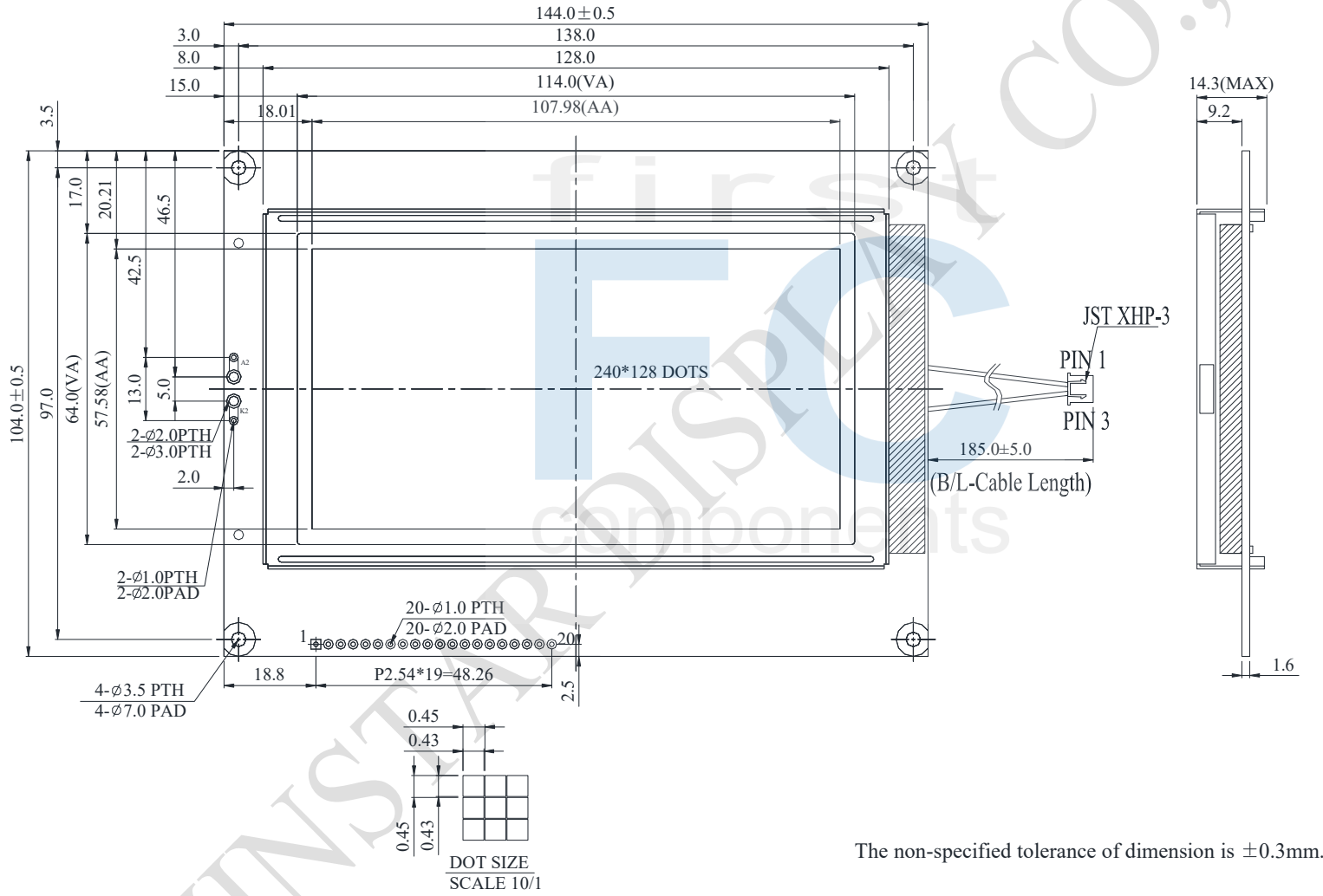
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Interface Pin Function

Pin No.	Symbol	Level	Description
1	Vee	—	Negative Voltage Output
2	Vss	—	GND
3	Vdd	—	Power supply
4	Vo	—	Power supply for LCD driver
5	/WR	L	Data write. Write data into RA6963when WR = L
6	/RD	L	Data read. Read data from RA6963when RD = L
7	/CE	L	L : Chip enable
8	C/D	H / L	WR=L , C/D=H : Command Write C/D=L: Data write RD=L , C/D=H : Status Read C/D=L: Data read
9	RST	—	Display Data signal
10	DB0	H / L	Data bus line
11	DB1	H / L	Data bus line
12	DB2	H / L	Data bus line
13	DB3	H / L	Data bus line
14	DB4	H / L	Data bus line
15	DB5	H / L	Data bus line
16	DB6	H / L	Data bus line
17	DB7	H / L	Data bus line
18	FS	—	Pins for selection of font; H : 6 * 8 , L : 8 * 8
19	NC	—	No connection
20	NC	—	No connection

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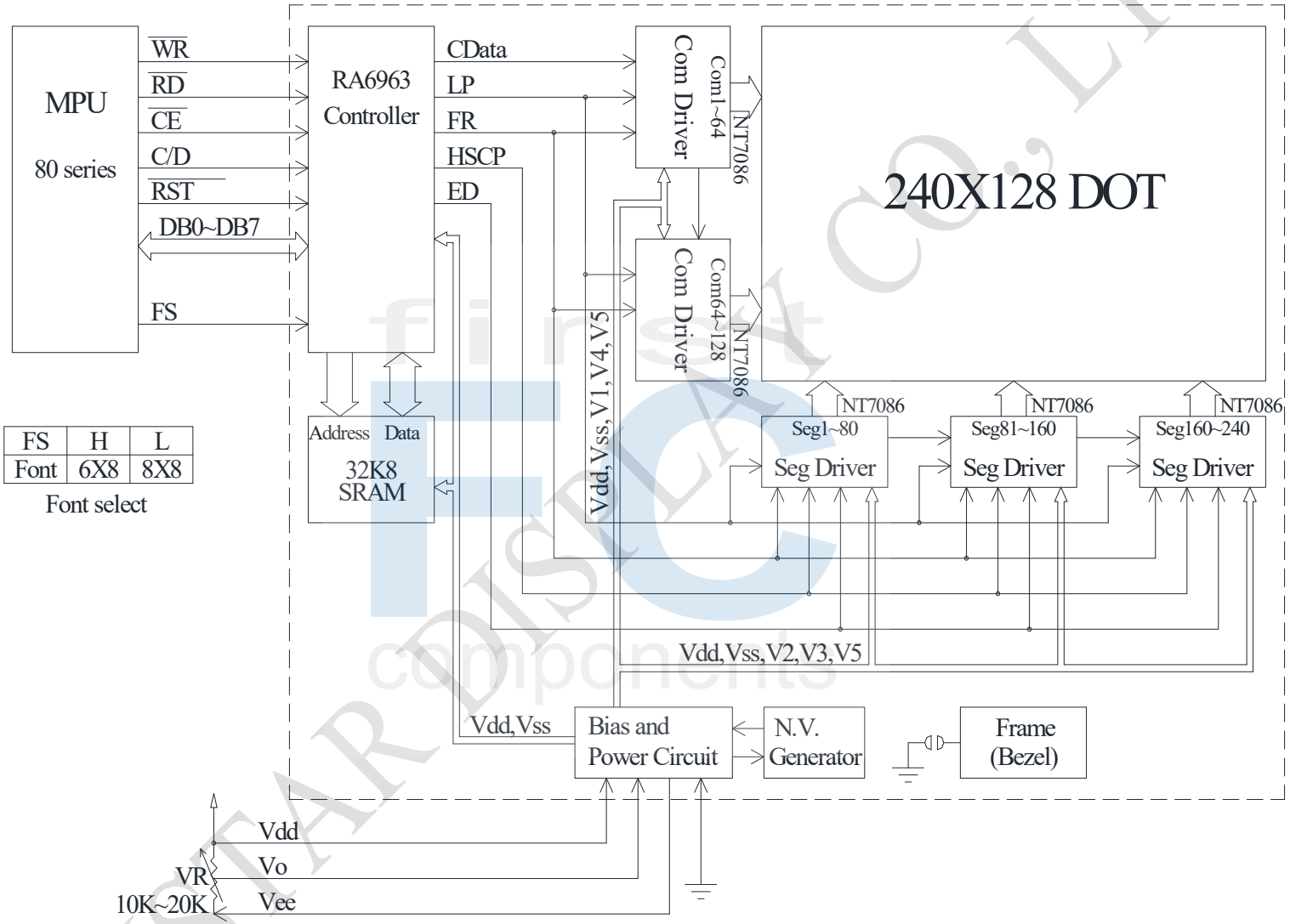
Contour Drawing



PIN NO.	SYMBOL
1	Vee
2	VSS
3	VDD
4	VO
5	$\overline{WR}$
6	$\overline{RD}$
7	$\overline{CE}$
8	C/$\overline{D}$
9	$\overline{RST}$
10	DB0
11	DB1
12	DB2
13	DB3
14	DB4
15	DB5
16	DB6
17	DB7
18	FS
19	NC
20	NC

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

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FS	H	L
Font	6X8	8X8

Font select

External contrast adjustment.

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