



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司



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SPECIFICATION

MODULE NO.:

WG320240D0

General Specification

Item	Dimension	Unit
Number of dots	320 x 240	—
Module dimension	142.0 x 96.0 x 15.7 (MAX)	mm
View area	104.0 x 79.3	mm
Active area	95.97 x 71.97	mm
Dot size	0.27 x 0.27	mm
Dot pitch	0.30 x 0.30	mm
LCD type	FSTN Positive Transflective (In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.)	
Duty	1/240	
View direction	6 o'clock	
Backlight Type	LED, White	
IC	RA8835	
Interface	80 series	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	°C
Storage Temperature	T_{ST}	-30	—	+80	°C
Input Voltage	V_{IN}	-0.3	—	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	—	7.0	V
Supply Voltage For LCD	$V_{DD}-V_0$	0	—	32	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	$V_{DD}-V_0$	$T_a=-20^{\circ}\text{C}$	—	—	23.5	V
		$T_a=25^{\circ}\text{C}$	21.0	21.6	22.2	V
		$T_a=70^{\circ}\text{C}$	19.8	—	—	V
Input High Volt.	V_{IH}	—	$0.5V_{DD}$	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	V_{SS}	—	$0.2V_{DD}$	V
Output High Volt.	V_{OH}	—	$V_{DD}-0.4$	—	—	V
Output Low Volt.	V_{OL}	—	—	—	$V_{SS}+0.4$	V
Supply Current	I_{DD}	$V_{DD}=5.0\text{V}$	98	112	135	mA

Interface Pin Function

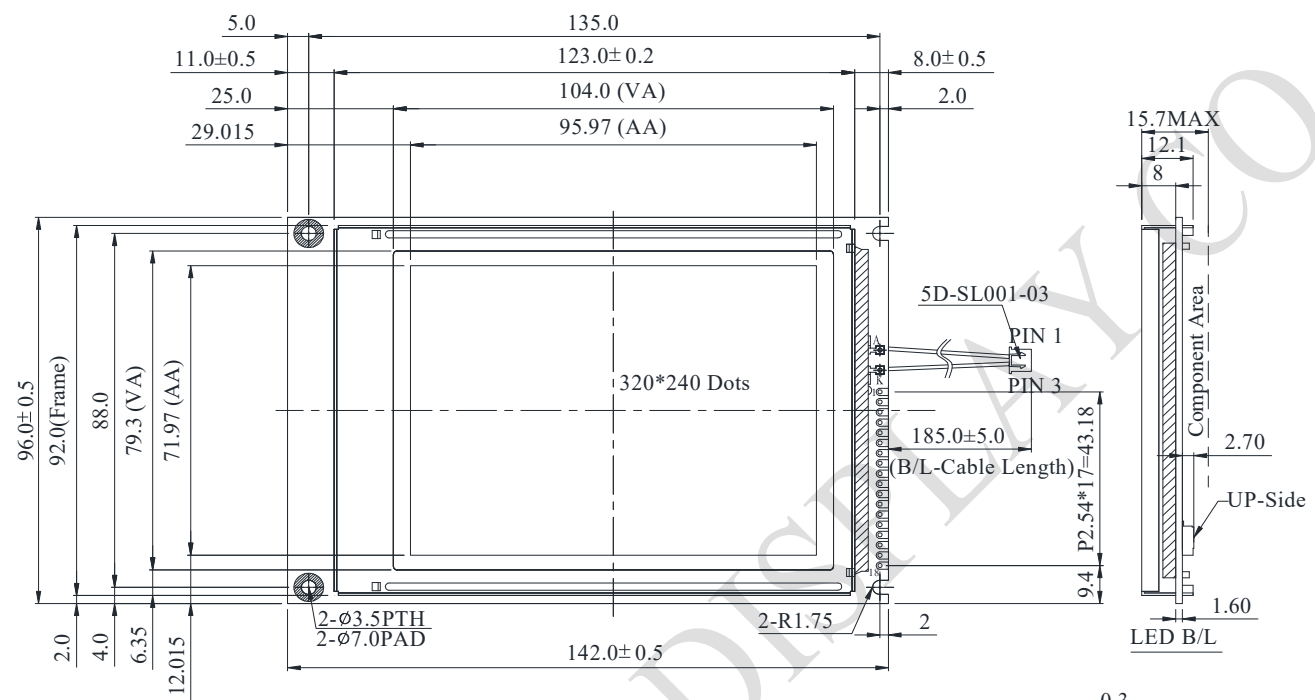
CON 1

Pin No.	Symbol	Level	Description
1	VSS	0V	Ground
2	VDD	5.0V	Power supply for Logic
3	VO	(Variable)	Driving voltage for LCD
4	A0	H/L	RD=L WR=H ,A0=L :Data Read AO=H :Status read RD=H WR=L ,A0=L :Data Write AO=H :Command write
5	WR	H/L	8080 family MPU interface : Write signal
6	RD	H/L	8080 family MPU interface: Read signal
7~14	DB0~DB7	H/L	Data bus line
15	CS	H/L	Chip select ,Active L
16	RES	H/L	Controller reset signal, Active L
17	VEE		Negative voltage output (Optional)
18	DISPOFF		Display off

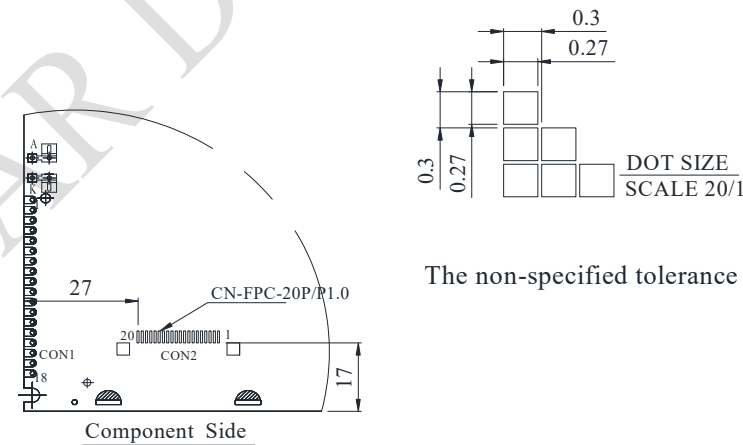
CON 2

Pin No.	Symbol	Level	Description
1	VSS	0V	Ground
2	VDD	5.0V	Power supply for Logic
3	VO	(Variable)	Driving voltage for LCD
4	A0	H/L	RD=L WR=H ,A0=L :Data Read AO=H :Status read RD=H WR=L ,A0=L :Data Write AO=H :Command write
5	WR	H/L	8080 family MPU interface : Write signal
6	RD	H/L	8080 family MPU interface: Read signal
7~14	DB0~DB7	H/L	Data bus line
15	CS	H/L	Chip select ,Active L
16	RES	H/L	Controller reset signal, Active L
17	VEE	—	Negative voltage output (Optional)
18	DISPOFF	—	Display off
19	A	—	Power supply for B/L +
20	K	—	Power supply for B/L -

Contour Drawing



PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	Vss	1	Vss
2	Vdd	2	Vdd
3	Vo	3	Vo
4	A0	4	A0
5	WR	5	WR
6	RD	6	RD
7	DB0	7	DB0
8	DB1	8	DB1
9	DB2	9	DB2
10	DB3	10	DB3
11	DB4	11	DB4
12	DB5	12	DB5
13	DB6	13	DB6
14	DB7	14	DB7
15	CS	15	CS
16	RES	16	RES
17	Vee	17	Vee
18	DISP/NC	18	DISPOFF
CON1		19	A
		20	K
		CON2	



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