



HIGHNESSTM

One of a kind

HM163FH111QY

16.3" Stretch Color TFT-LCD

Release Data
21th Nov 2025

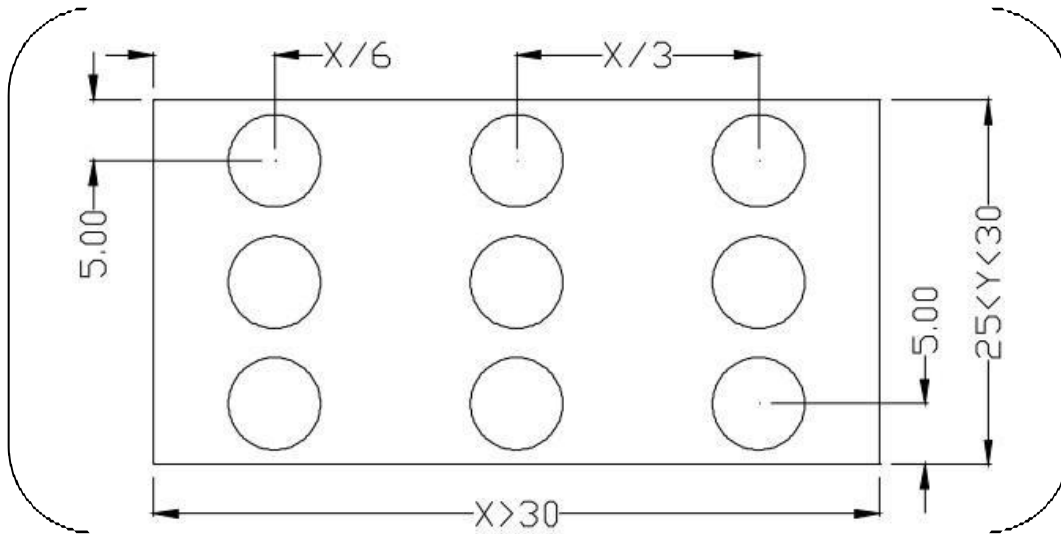
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS SOLELY OWENED BY 'HIGHNESS MICROELECTRONICS LTD.' ANY UNAUTHORISED COPY OR PRINTING OR PUBLISHING OF INFORMATION IN THIS DOCUMENT IN PART OR IN COMPLETE IS RESTRICTED.

HIGHNESS MICROELECTRONICS LTD.

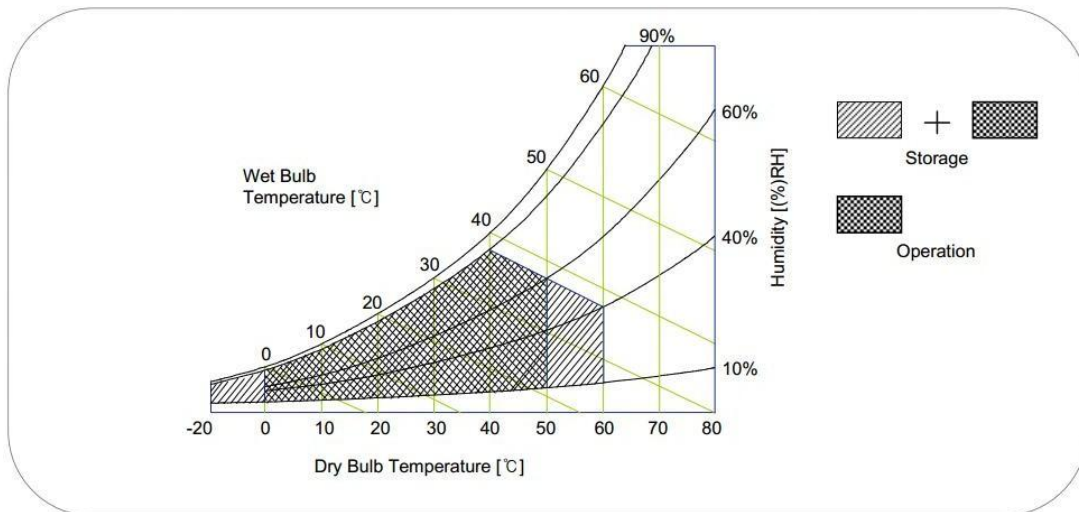
URL: www.highnessmicro.com, Email: sales@highnessmicro.com

1. General Specifications

Item	Specification	Unit
Screen Diagonal	16.3"	inch
Active Area	408.96(H) x 60.71(V)	mm
Outline Dimension	439(H) x 91(V)	mm
Resolution	1920(H) x 285(V)	-
Pixel Pitch	0.213 x 0.213	mm
White Luminance	800 (typ)	cd/m ²
Uniformity	≥80	%
Color Temp	≥6500	K
Power Consumption	<32	W
Contrast Ratio	1000:1	CR
Aspect Ratio	16:2.4	
Viewing Angle	178(H), 178(V)	Deg.
Response Time	9.5	ms
Mean Expected Lifetime	50,000 h @ 25°C (BLU)	-
Display Color	16.7M	Color
LCD Input Voltage	5(type)	Volt
LCD input Current	0.8 (type)	Amper
LCD inrush Current	≤3.4	Amper
Backlight Type	Edge Light	-
Operating Temp.	-20 ~ +70	°C
Storage Temp.	-20 ~ +70	°C
Humidity	10 ~ 90	%



(3). Temperature and relative humidity range are shown in the figure below.



2. LCD Electrical Specification

2.1 Power Specification

Input power specifications are as follows:

Symbol	Parameter	Min	Typ	Max	Unit	Conditions
VDD	Logic/LCD Drive Voltage	4.5	5.0	5.5	[Volt]	+/-10%
IDD	Input Current	-	0.8	1	[A]	VDD= 5.0V, All White Pattern At 60Hz,
PDD	VDD Power	-	4	5.5	[Watt]	VDD= 5.0V, All White Pattern At 60Hz
IRush	Inrush Current	-	2.7	3.4	[A]	Note 1
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	300	[mV] p-p	VDD= 5.0V, All White Pattern At 60Hz

Note 1: Measurement conditions:

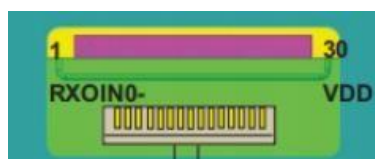
The duration of rising time of power input is 470us.

2.2 LCD Interface connections

The module using a pair of LVDS receiver **SN75LVDS82 / SN75LVDS83** (Texas Instruments) or compatible. LVDS is a differential signal technology for LCD interface and high speed data transfer device. Transmitter shall be SN75LVDS83(negative edge sampling) or compatible. The first LVDS port(RxOxxx) transmits odd pixels while the second LVDS port(RxExxx) transmits even pixels.

PIN #	SIGNAL NAME	DESCRIPTION
1	RXOIN0-	Negative LVDS differential data input (Odd data)
2	RXOIN0+	Positive LVDS differential data input (Odd data)
3	RXOIN1-	Negative LVDS differential data input (Odd data)
4	RXOIN1+	Positive LVDS differential data input (Odd data)
5	RXOIN2-	Negative LVDS differential data input (Odd data, H-Sync,V-Sync,DSPTMG)
6	RXOIN2+	Positive LVDS differential data input (Odd data, H-Sync,V-Sync,DSPTMG)
7	GND	Power Ground
8	RXOCLKIN-	Negative LVDS differential clock input (Odd clock)
9	RXOCLKIN+	Positive LVDS differential clock input (Odd clock)
10	RXOIN3-	Negative LVDS differential data input (Odd data)
11	RXOIN3+	Positive LVDS differential data input (Odd data)
12	RXEIN0-	Negative LVDS differential data input (Even data)
13	RXEIN0+	Positive LVDS differential data input (Even data)
14	GND	Power Ground
15	RXEIN1-	Negative LVDS differential data input (Even data)
16	RXEIN1+	Positive LVDS differential data input (Even data)
17	GND	Power Ground
18	RXEIN2-	Negative LVDS differential data input (Even data)
19	RXEIN2+	Positive LVDS differential data input (Even data)
20	RXECLKIN-	Negative LVDS differential clock input (Even clock)
21	RXECLKIN+	Positive LVDS differential clock input (Even clock)
22	RXEIN3-	Negative LVDS differential data input (Even data)
23	RXEIN3+	Positive LVDS differential data input (Even data)
24	GND	Power GND
25	NC	NC
26	NC	NC
27	NC	NC
28	VDD	+5.0V Power Supply
29	VDD	+5.0V Power Supply
30	VDD	+5.0V Power Supply

Note 1: Start from left side



2.3 Signal Electrical Characteristics

Signal	Item	Symbol	Min	Typ	Max	Unit
V-section	Period	T_v	1090	1100	1160	Th
	Active	$T_{disp(v)}$	1080	1080	1080	Th
	Blanking	$T_{bp(v)}+T_{fp(v)}+PW_{vs}$	10	20	80	Th
H-section	Period	T_h	1000	1088	1120	Tclk
	Active	$T_{disp(h)}$	960	960	960	Tclk
	Blanking	$T_{bp(h)}+T_{fp(h)}+PW_{hs}$	40	128	160	Tclk
Clock	Period	T_{clk}	11.76	13.89	15.38	ns
	Frequency	Freq.	60	72	87.5	MHz
Frame Rate	Frame Rate	$1/T_v$	50	60	75	Hz

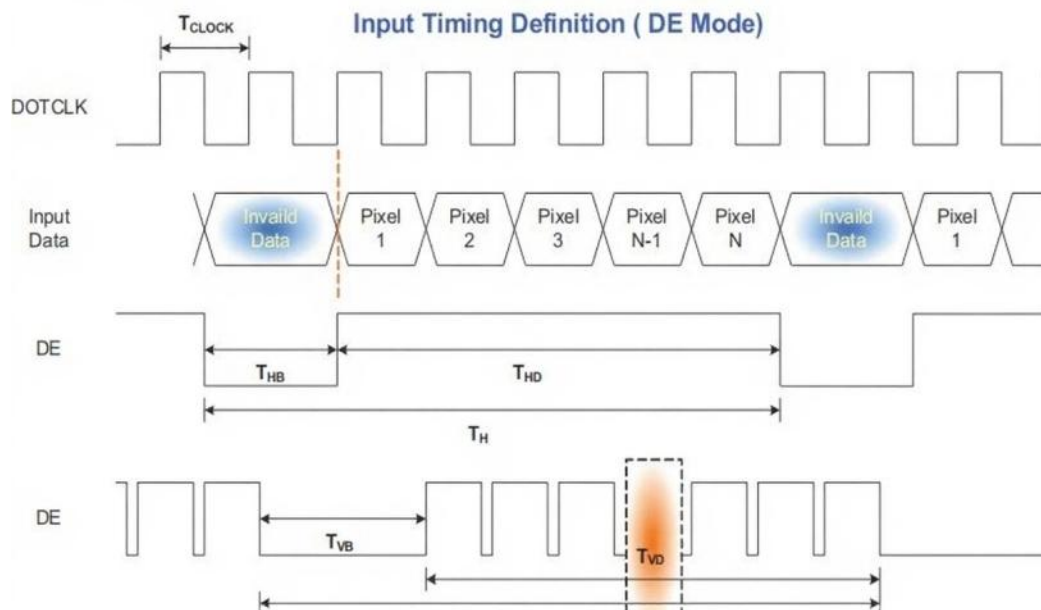
Note 1: Only DE mode operation.

The input of Hsync & Vsync signal does not have an effect upon the LCD normal operation.

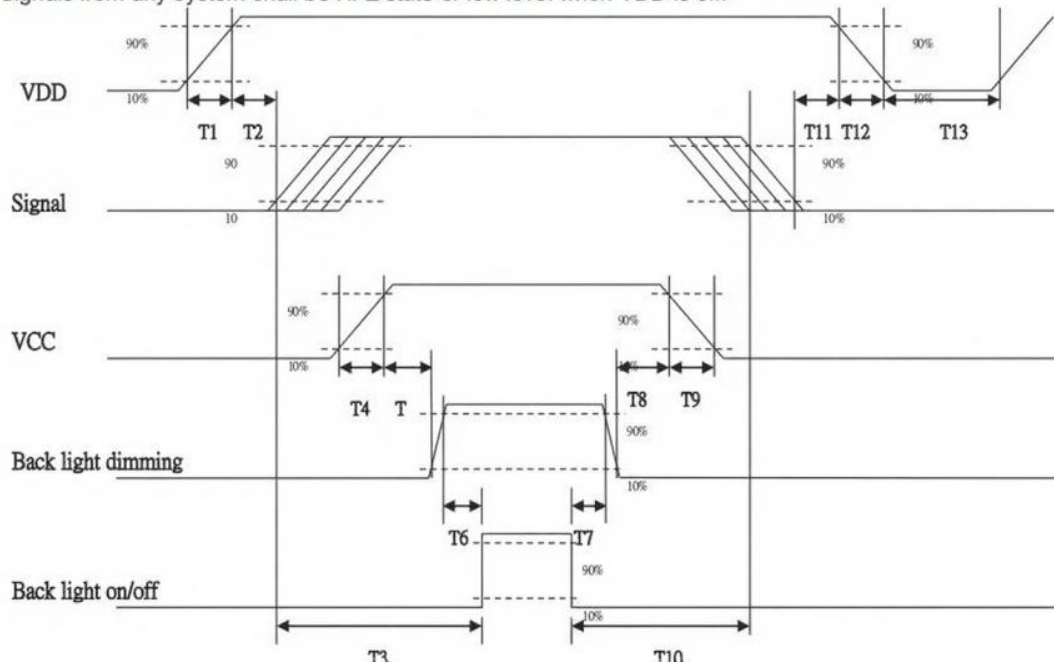
Note 2: The performance of the electro-optical characteristics may be influenced by variance of the vertical refresh rates.

Note 3: Horizontal period should be even.

Timing diagram



VDD power and LED on/off sequence are as follows. Interface signals are also shown in the chart. Signals from any system shall be Hi-Z state or low level when VDD is off.

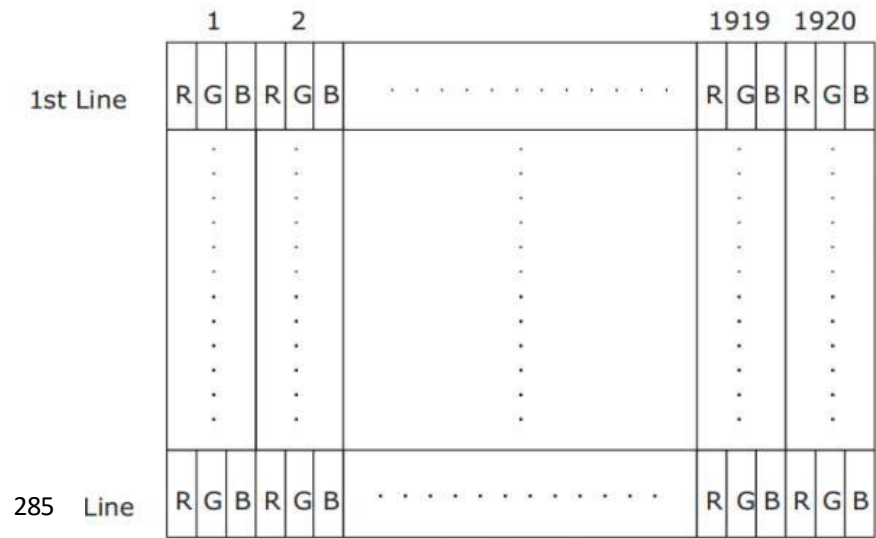


Power ON/OFF sequence timing

Parameter	Value			Units
	Min.	Typ.	Max.	
T1	0.5	-	10	[ms]
T2	0	40	50	[ms]
T3	200	-	-	[ms]
T4	0.5	-	10	[ms]
T5	10	-	-	[ms]
T6	10	-	-	[ms]
T7	0	-	-	[ms]
T8	10	-	-	[ms]
T9	-	-	10	[ms]
T10	110	-	-	[ms]
T11	0.5	16	50	[ms]
T12	-	-	100	[ms]
T13	1000	-	-	[ms]

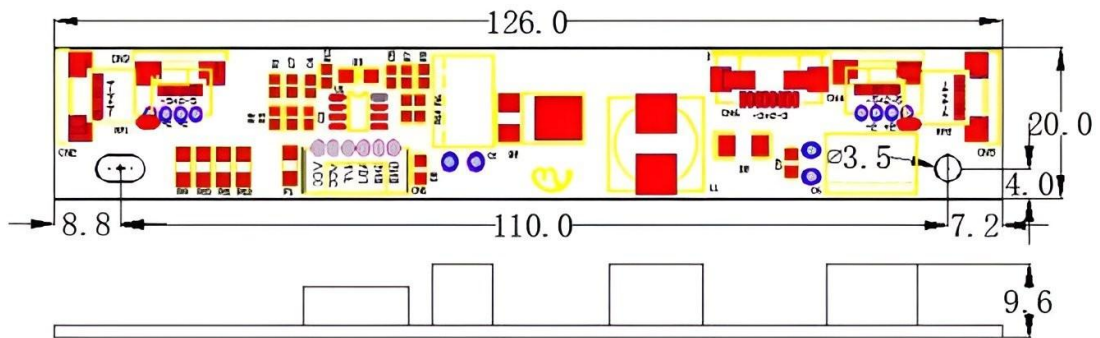
2.4 Signal Characteristic

Following figure shows the relationship of the input signals and LCD pixel format.



3. Backlight LED Driver

3.1. Board dimensions



3.2. BACKLIGHT LED DRIVER INTERFACE

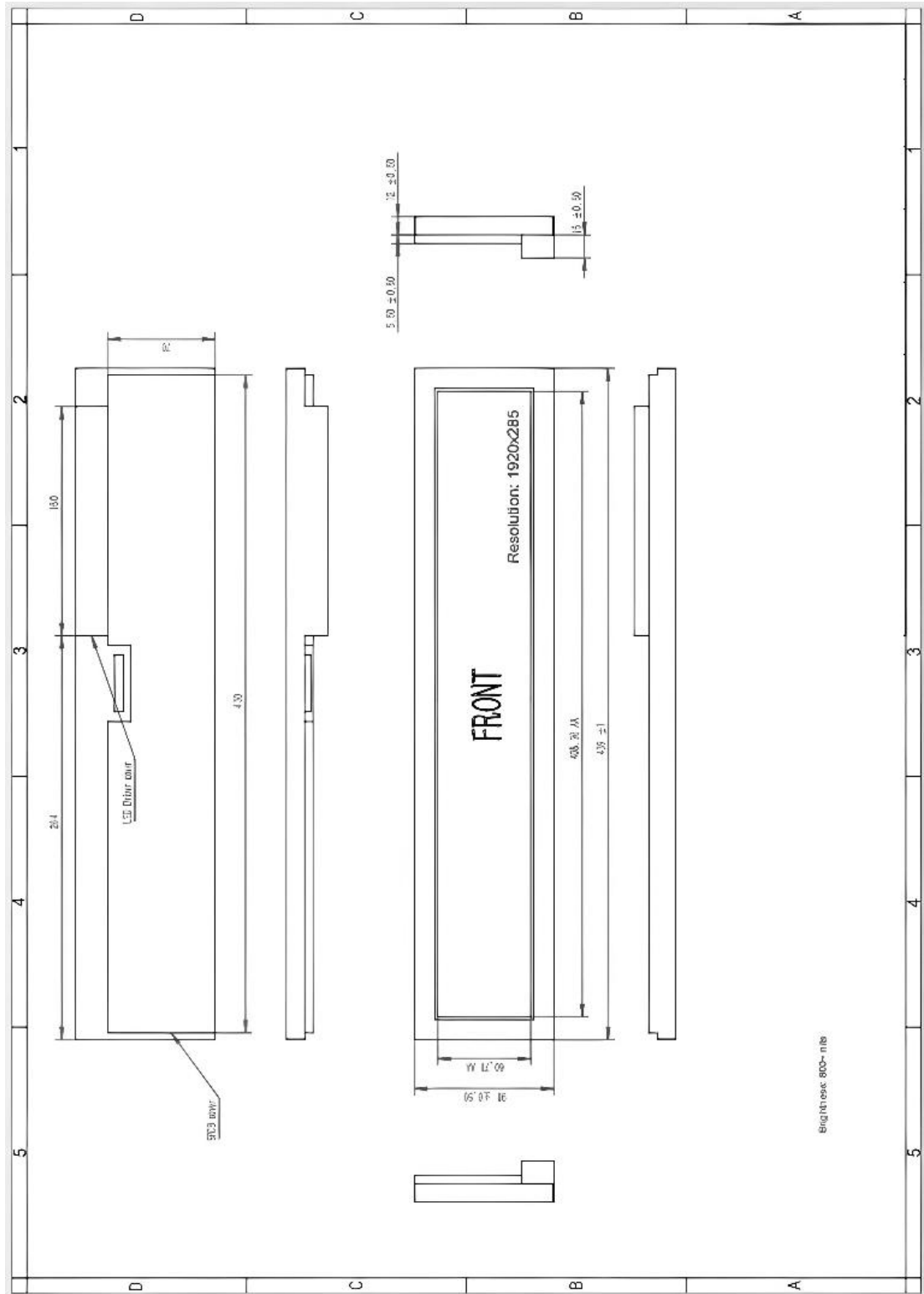
Input connector : CN1			
Pin No.	Symbol	Description	Parameter
1、 2	+12V	Supply voltage	10.8~14.4V
3	N/F	Standby/Operation.	On =2~5.0V Off=0-0.5V
4	ADJ	Dimming control	0V=Brightness Max 5V=Brightness Min
5、 6	GND	Ground	0V

4. Reliability Test

Environment test conditions are listed as following table. (Refer to **EN50155**)

Items	Required Condition	Note
Temperature Humidity Bias	Ta=50 Degree,80%RH,300H	
High Temperature Operation	Ta=50 Degree,60%, 300H	
Low Temperature Operation	Ta=0 Degree,300H	
High Temperature Storage	Ta=70 Degree,60%RH,300H	
Low Temperature Storage	Ta=-25 Degree,300H	
Shock Test(Non-Operating)	50G,20ms,Half-sine wave,(±X, ±Y, ±Z)	
Vibration Test(Non-Operating)	1.5G,(10-200HZ,P-P),30Min/axis(X,Y,Z)	
On/Off test	On-10s,Off-10s,30000cycles	
ESD	Contact Discharge: ±6KV,150pF,1s,8 points,25 times/point.	
	Air Discharge: ±8KV,150pF.1s, 8 points, 25times/point.	

5. Mechanical Dimensions



BrightView 800-mts