

AU OPTRONICS CORPORATION

- () Preliminary Specifications
- (V) Final Specifications

Module	10.1"(10.01") WXGA 16:10 Color TFT-LCD
Model Name	B101EAN02.0 (H/W: 0A) LCM
Note	LED Backlight without driving circuit design

Customer	Date	Approved by	Date
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Checked & Approved by	Date	Prepared by	
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Note: This Specification is subject to change without notice.		MPBU Marketi AU Optronics	

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Record of Revision

Page	Old description	New Description	Remark
All	First Edition for Customer		
30		Add label information	
5		Update Screen diagonal	
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5		Update Luminance Uniformity	
6		Update Contrast Ratio	
6		Update Chromaticity Coordinates	
22		Update Pin define of Pin 31 & 32	
28, 29		Update LCM outline dimension	
20		Update LED characteristics	
5, 28		Update thickness	
30	Shipping label	Add Z31 site	
	AII 30 5 5 5 6 6 22 28, 29 20 5, 28	All First Edition for Customer 30 5 5 6 6 22 28, 29 20 5, 28	All First Edition for Customer Add label information Update Screen diagonal Update Pixed pitch Update White Luminance Update Luminance Uniformity Update Contrast Ratio Update Chromaticity Coordinates Update Pin define of Pin 31 & 32 Update LCM outline dimension Update LED characteristics Update thickness



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1. Handling Precautions

- 1) Since front polarizer is easily damaged, pay attention not to scratch it.
- 2) Be sure to turn off power supply when inserting or disconnecting from input connector.
- 3) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.
- 4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
- 5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
- 6) Since CMOS LSI is used in this module, take care of static electricity and insure human earth when handling.
- 7) Do not open nor modify the Module Assembly.
- 8) Do not press the reflector sheet at the back of the module to any directions.
- 9) At the insertion or removal of the Signal Interface Connector, be sure not to rotate nor tilt the Interface Connector of the TFT Module.
- 11)After installation of the TFT Module into an enclosure (Notebook PC Bezel, for example), do not twist nor bend the TFT Module even momentary. At designing the enclosure, it should be taken into consideration that no bending/twisting forces are applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
- 12) Small amount of materials having no flammability grade is used in the LCD module. The LCD module should be supplied by power complied with requirements of Limited Power Source (IEC60950 or UL1950), or be applied exemption.
- 13) Disconnecting power supply before handling LCD modules, it can prevent electric shock, DO NOT TOUCH the electrode parts, cables, connectors and LED circuit part of TFT module that a LED light bar build in as a light source of back light unit. It can prevent electrostatic breakdown.

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2. General Description

B101EAN02.0 is a Color Active Matrix Liquid Crystal Display composed of a TFT LCD panel, a driver circuit, and LED backlight system. The screen format is intended to support the 16:10 WXGA, 800(H) x1280(V) screen and 16.7M colors (Real 8 bits) without LED backlight driving circuit. All input signals are MIPI interface compatible.

B101EAN02.0 is designed for a display unit of notebook style personal computer and industrial machine.

2.1 General Specification

The following items are characteristics summary on the table at 25 $^{\circ}$ C condition:

Items	Unit	t Specifications					
Screen Diagonal	[mm]	255.397					
Active Area	[mm]	135.36(H) x 2	216.576(V)				
Pixels H x V		800 x 3(RBG) x 1280					
Pixel Pitch	[mm]	0.1692 X 0.16	692				
Pixel Format		R.G.B. Vertic	al Stripe				
Display Mode		AHVA, Norma	ally Black				
White Luminance	[cd/m2]	400 typ. (cent	ter point)				
Luminance Uniformity	$\begin{matrix} \delta_{5P} \\ \delta_{13P} \end{matrix}$	5P Max. 1.25 13P Max. 1.4					
Contrast Ratio		Typ. 1000:1,	min 800:1				
Response Time	[ms]	Тур. 30					
Nominal Input Voltage VDD	[Volt]	3.3V typ					
Power Consumption	[Watt]	Logic: 0.4 W BLU: 1.66 W					
Weight	[Grams]	134.65g Max					
			Min.	Тур.	Max.		
		Length	227.926	228.226	228.526		
Physical Size	[mm]	Width	141.06	141.36	141.66		
		Thickness 2.4 (Panel side) 4.23 (PCBA side)					
Electrical Interface		MIPI					
Surface Treatment		Glare					
Support Color		16.7M colors	(Real 8 bits))			

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Temperature Range Operating Storage (Non-Operating)	[°C] [°C]	0 to +50 -20 to +60	
RoHS Compliance		RoHS Compliance	

2.2 Optical Characteristics

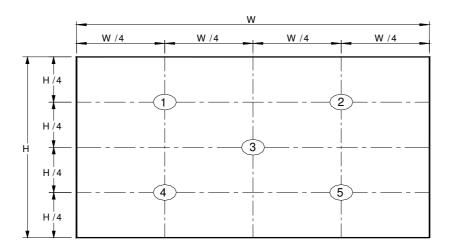
The optical characteristics are measured under stable conditions at 25°C (Room Temperature) :

Item		Symbol	Conditions	Min.	Тур.	Max.	Unit	Note
White Lumin	ance		5 points average	340	400		cd/m ²	1, 4, 5.
Viewing Angle		θ_{R}	Horizontal (Right)	80	85			
		θ_{L}	CR ≧ 10 (Left)	80	85			
Viewing An	gic	Ψн	Vertical (Upper)	80	85		degree	4, 9
		Ψ_{L}	$CR \ge 10$ (Lower)	80	85			
Luminance Uni	iformity	δ_{5P}	5 Points			1.25		1, 3, 4
Luminance Uni	iformity	δ _{13P}	13 Points			1.42		2, 3, 4
Contrast Ra	atio	CR		800	1000			4, 6
Cross tal	k	%				2		4, 7
Response T	ime	T _{RT}	Rising + Falling		30	35	msec	4, 8
	Red	Rx		0.578	0.608	0.638		
	neu	Ry		0.325	0.355	0.385		
	0	Gx		0.309	0.339	0.369		
Color /	Green	Gy		0.568	0.598	0.628		
Chromaticity Coordinates		Bx	CIE 1931	0.125	0.155	0.185		4
	Blue	Ву		0.057	0.087	0.117		
		Wx		0.275	0.305	0.335		
	White	Wy		0.290	0.320	0.350		
NTSC	1	%		-	60	0.000		

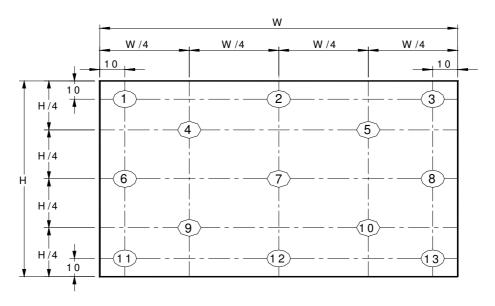


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Note 1: 5 points position (Ref: Active area)



Note 2: 13 points position (Ref: Active area)



Note 3: The luminance uniformity of 5 or 13 points is defined by dividing the maximum luminance values by the minimum test point luminance

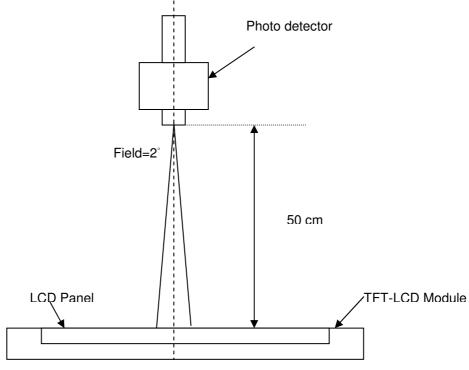
2	=	Maximum Brightness of five points
δ w5		Minimum Brightness of five points
2		Maximum Brightness of thirteen points
δ w13	=	Minimum Brightness of thirteen points



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Note 4: Measurement method

The LCD module should be stabilized at given temperature for 30 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting Backlight for 30 minutes in a stable, windless and dark room, and it should be measured in the center of screen.



Center of the screen

Note 5: Definition of Average Luminance of White (Y_L):

Measure the luminance of gray level 63 at 5 points \cdot $Y_L = [L (1) + L (2) + L (3) + L (4) + L (5)] / 5 L (x) is corresponding to the luminance of the point X at Figure in Note (1).$

Note 6: Definition of contrast ratio:

Contrast ratio is calculated with the following formula.

Note 7: Definition of Cross Talk (CT)

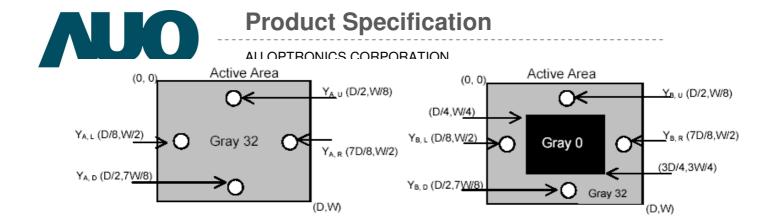
$$CT = |Y_B - Y_A| / Y_A \times 100 (\%)$$

Where

Y_A = Luminance of measured location without gray level 0 pattern (cd/m₂)

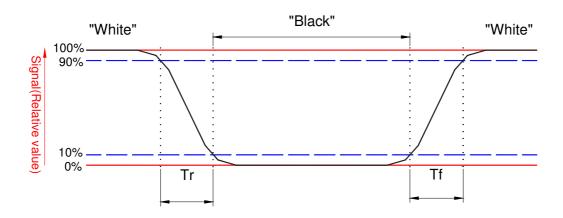
Y_B = Luminance of measured location with gray level 0 pattern (cd/m₂)

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Note 8: Definition of response time:

The output signals of BM-7 or equivalent are measured when the input signals are changed from "Black" to "White" (falling time) and from "White" to "Black" (rising time), respectively. The response time interval between the 10% and 90% of amplitudes. Refer to figure as below.

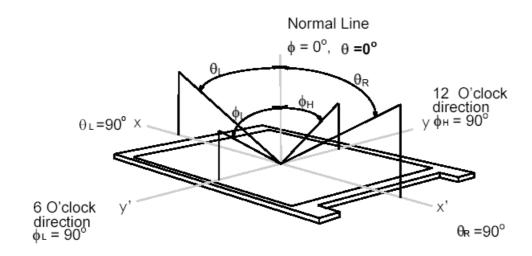




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Note 9. Definition of viewing angle

Viewing angle is the measurement of contrast ratio \geq 10, at the screen center, over a 180° horizontal and 180° vertical range (off-normal viewing angles). The 180° viewing angle range is broken down as follows; 90° (θ) horizontal left and right and 90° (Φ) vertical, high (up) and low (down). The measurement direction is typically perpendicular to the display surface with the screen rotated about its center to develop the desired measurement viewing angle.



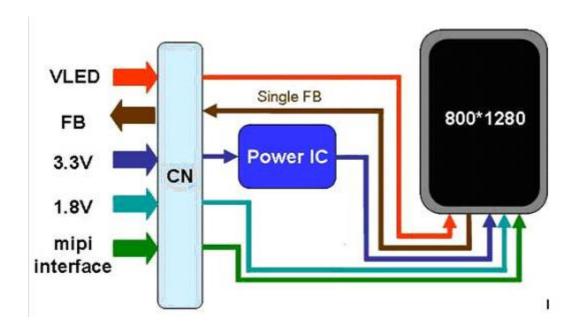
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3. Functional Block Diagram

The following diagram shows the functional block of the 10.1 inches wide Color TFT/LCD 39 Pin one channel Module



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4. Absolute Maximum Ratings

An absolute maximum rating of the module is as following:

4.1 Absolute Ratings of TFT LCD Module

Item	Symbol	Min	Max	Unit	Conditions
Logic/LCD Drive Voltage	Vin	-0.3	+4.0	[Volt]	Note 1,2

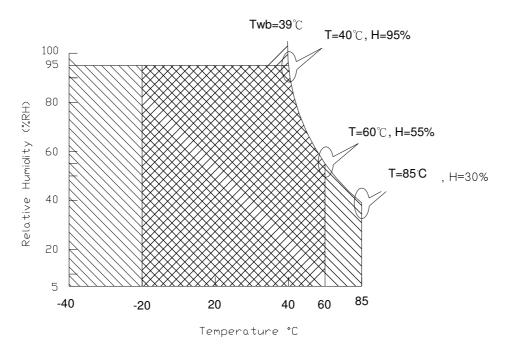
4.2 Absolute Ratings of Environment

Item	Symbol	Min	Max	Unit	Conditions
Operating Temperature	TOP	0	+50	[°C]	Note 3
Operation Humidity	HOP	5	95	[%RH]	Note 3
Storage Temperature	TST	-20	+60	[°C]	Note 3
Storage Humidity	HST	5	95	[%RH]	Note 3

Note 1: At Ta (25°C)

Note 2: Permanent damage to the device may occur if exceed maximum values

Note 3: For quality performance, please refer to AUO IIS (Incoming Inspection Standard).



Operating Range +Storage Range

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5. Electrical Characteristics

5.1 TFT LCD Module

5.1.1 Power Specification

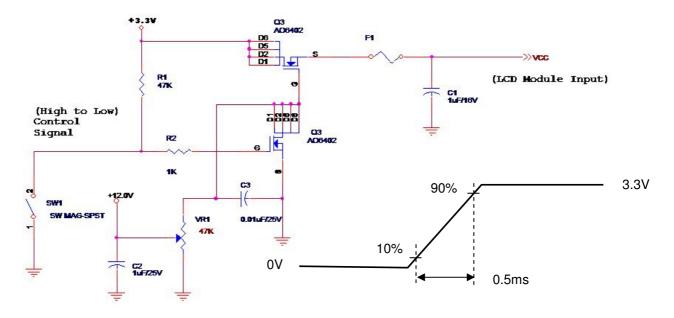
Input power specifications are as follows. The power specification are measured under 25° C and frame frenquency under 60Hz

Symble	Parameter	Min	Тур	Max	Units	Note
VDD	Logic/LCD Drive Voltage	1.7	1.8	1.9	[Volt]	
PDD	VDD Power	-	0.036		[Watt]	
IDD	IDD Current	-	-		[mA]	

Symble	Parameter	Min	Тур	Max	Units	Note
VDD	Logic/LCD Drive Voltage	3.0	3.3	3.6	[Volt]	
PDD	VDD Power	_	_	0.4	[Watt]	Note 1
IDD	IDD Current	-	-	121	[mA]	Note 1
IRush	Inrush Current	-	-	1500	[mA]	Note 2
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	100	[mV] p-p	

Note 1: Maximum Measurement Condition: White Pattern at 3.3V driving voltage. (P_{max}=V_{3.3} x I_{white})

Note 2: Measure Condition



Vin rising time

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5.1.2 Signal Electrical Characteristics

Input signals shall be low or High-impedance state when VDD is off.

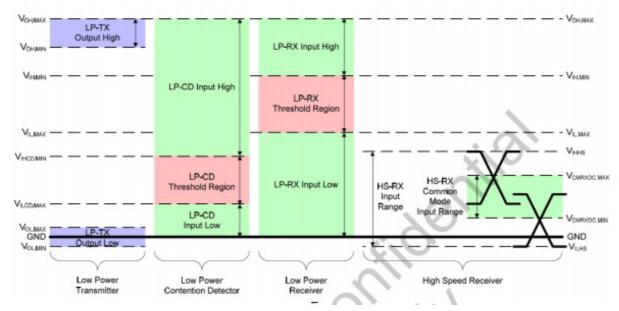
MIPI DC characteristics are as follows:

				Specificatio	n	Unit
Parameter	Symbol	Conditions	MIN		MAX	Unit
Power supply voltage for MIPI Interface	,				110	
December 1 to 1 to 1 to 1	VDDAM	-	1.75	2.8	6.0	V
Power supply voltage for MIPI interface	LVDSVDD	20	1.15	1.2	1.375	V
LPDT Input Characteristics				YO		
Pad signal voltage range	VI	*	-50	U:	1350	mV
Ground Shift	VGNDSH		-50		50	mV
Logic 0 input threshold	VIL	(0	1:1	550	mV
Logic 1 input threshold	VIH	(880	1	LVDSVDD	mV
Input hysteresis	VHYST		25	1.	-	mV
LPDT Output Characteristics	1	0				
Output low level	VOL	3 - 7	-50	7.0	50	mV
Output high level	VOH		1.1	1.2	1.3	V
Logic 1 contention threshold	VIHCD,MIN	1/2	450	7//	LVDSVDD	mV
Logic 0 contention threshold	VILCD,MAX		0	29	200	mV
Output impedence of LPDT	ZOLP	- 2	80	100	125	ohm
Hi-speed Input/Output Characteristics	10		32 d			
Single-end input low voltage	VILHS	21	-40	21	-	mV
Single-end input high voltage	VIHHS	21	(20)	21	460	mV
Common mode voltage	VCMRXDC	-	70	- 21	330	mV
Hi-speed transmit voltage	VOD	-1	140	200	250	mV
Differential input impedence	ZID		80	100	125	ohm

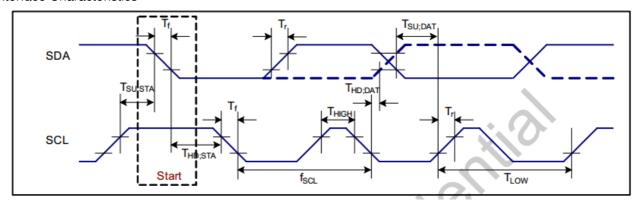
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IC Interface Characteristics



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Table: I2C Interface Characteristics

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
f _{SCLK}	SCL clock frequency	- (DC		400	KHz
T _{LOW}	SCL clock LOW period	- 0	1.3	1.	-	#s
T _{HIGH}	SCL clock HIGH period		0.6	7.	-	#s
T _{SU;DATA}	data set-up time	- (100	-	-	ns
T _{HD;DATA}	data hold time		0	-	0.9	#s
Tr	SCL and SDA rise time	Note 2	20+0.1C _b	-	300	ns
T _f	SCL and SDA fall time	Note 2	20+0.1C _b	-	300	ns
T _f	SDA fall time for read out)	20+0.1C _b	-	1000	ns
Сь	Capacitive load represented by each bus line	-	-	-	400	pF
T _{SU;STA}	Setup time for a repeated START condition	-	0.6	-	-	#s
T _{HD;STA}	START condition hold time	-	0.6	-	-	#s
T _{SU;STO}	Setup time for STOP condition	-	0.6	-	-	#s
T _{SW}	Tolerable spike width on bus	Note 1	-	-	50	ns
T _{BUF}	BUS free time between a STOP and START condition	-	1.3		-	#s

Note1: The device inputs SDA and SCL are filtered and will reject spikes on the bus lines of width <t_{SW(max)}.

Note2: The rise and fall times specified here refer to the driver device and are part of the general fast I^2 C-bus specification. C_b = capacitive load per bus line.

Note3: All timing values are valid within the operating supply voltage and ambient temperature ranges and are referenced to V_{IL} and V_{IH} with an input voltage swing of VSS to VDDI

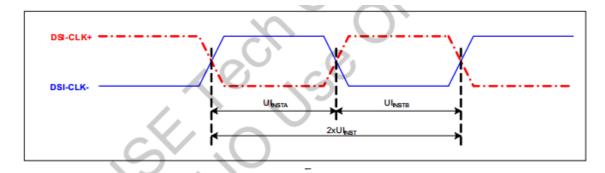
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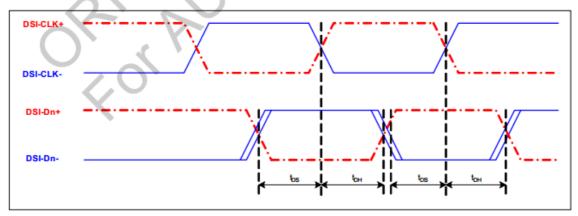


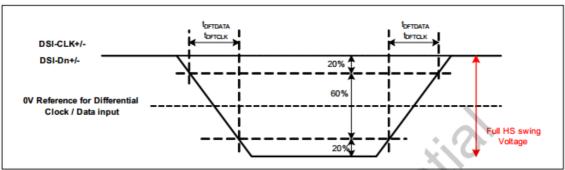
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MIPI High-Speed Data-clock Timing

	0	Specification		1	Unit	
Parameter	Symbol	Parameter	MIN	TYP	MAX	Uni
Speed Mode						
DSI-CLK+/-	2xUI _{INST}	Double UI instantaneous	2.22	1	25	ns
DSI-CLK+/-	UI _{INSTA} , UI _{INSTB}	UI instantaneous Halfs	1.11	20	12.5	ns
DSI-Dn+/-	t _{DS}	Data to clock setup time	0.15	1/2		UI
DSI-Dn+/-	t _{DH}	Data to clock hold time	0.15) -		UI
DSI-CLK+/-	tortclk	Differential rise time for clock	150	727	0.3UI	ps
DSI-Dn+/-	t _{DRTDATA}	Differential rise time for data	150	-	0.3UI	ps
DSI-CLK+/-	t _{DFTCLK}	Differential fall time for clock	150		0.3UI	ps
DSI-Dn+/-	t _{DFTDATA}	Differential fall time for data	150	4.	0.3UI	ps







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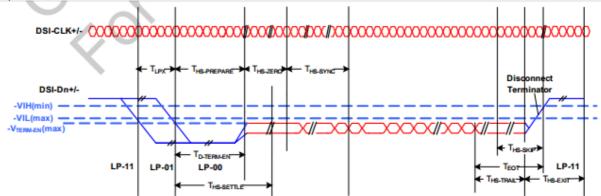


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The timing definitions are listed in below:

_		Parameter	Specification			
Parameter	Symbol	Parameter	MIN	TYP	MAX	Unit
h Speed Data Transn	nission Bursts					
DSI-Dn+/-	T _{LPX}	Length of any low-power state period	50			ns
DSI-Dn+/-	T _{HS-PREPARE}	Time to drive LP-00 to prepare for HS transmission	40ns + 4UI	٦.	85ns + 6UI	ns
DSI-Dn+/-	T _{HS-PREPARE} +T _{HS-ZERO}	T _{HS-PREPARE} + time to drive HS-0 before the sync sequence	145ns + 10UI	•		ns
DSI-Dn+/-	T _{D-TERM-EN}	Time to enable Data Lane receiver line termination measured from when Dn crosses V _{IL(max)}	111110 101	- 2	35ns + 4UI	ns
DSI-Dn+/-	T _{HS-SKIP}	Time-out at RX to ignore transition period of EoT	40	-	55ns + 4UI	ns
DSI-Dn+/-	T _{HS-TRAIL}	Time to drive flipped differential state after last payload data bit of a HS transmission burst	max (8UI	-	-	ns
DSI-Dn+/-	T _{HS-EXIT}	Time to drive LP-11 after HS burst	100	- 21	-	ns
DSI-Dn+/-	T _{Eo} T	Time from start of T _{HS-TRAIL} period to start of LP-11 state	-	-	105ns + 12UI	ns





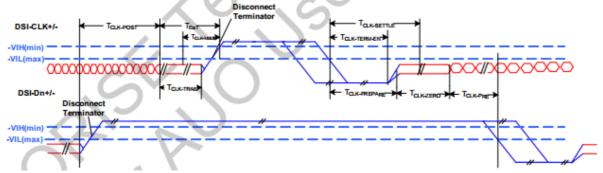
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	0			Specification	1	Unit
Parameter	Symbol	Parameter	MIN	TYP	MAX	
tching the clock Lar	ne between clock T	ransmission and Low Power Mode				
DSI-CLK+/-	T _{CLK-POST}	Time that the transmitter shall continue sending HS clock after the last associated Data Lane has transitioned to LP mode	60ns + 52UI	-		ns
DSI-CLK+/-	T _{CLK-PRE}	Time that the HS clock shall be driven prior to any associated Data Lane beginning the transition from LP to HS mode	8	ii	0.	UI
DSI-CLK+/-	T _{CLK-PREPARE}	Time to drive LP-00 to prepare for HS clock transmission	38	<i>)</i> .	95	ns
DSI-CLK+/-	T _{CLK} -TERM-EN	Time to enable Clock Lane receiver line termination measured from when Dn crosses V _{IL(max)}			38	ns
DSI-CLK+/-	T _{CLK-PREPARE} +T _{CLK-ZERO}	T _{CLK-PREPARE} + time for lead HS-0 drive period before starting Clock	300	7 -	100	ns
DSI-CLK+/-	T _{CLK-TRAIL}	Time to drive HS differential state after last payload clock bit of a HS transmission burst	60		-	ns
DSI-CLK+/-	T _{EoT}	Time from start of T _{CLK-TRAIL} period to start of LP-11 state	<i>J</i> .		105ns + 12UI	ns

Switching the Clock Lane between Clock Transmission and Low-Power Mode





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5.2.1 LED characteristics

Parameter	Symbol	Min	Тур	Max	Units	Condition
Backlight Power Consumption (W/O Efficiency)	PLED			1.66	[Watt]	Note 1 (Ta= 25°ℂ)
LED Forward Voltage	VF	2.8	3.0	3.1	[Volt]	(Ta= 25°C)
LED Forward Voltage of every LED string	Vf-string	16.8	18.0	18.6	[Volt]	
LED Forward Current	IF		22		[mA]	(Ta= 25°ℂ)
LED Life time	N/A	>15000			Hour	Note 1 (Ta=25℃)

Note 1: calculator value for reference PLED based on 20 mA

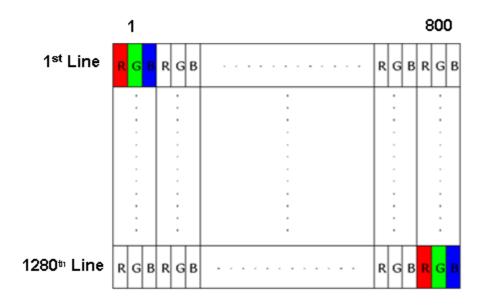
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6. Signal Interface Characteristic

6.1 Pixel Format Image

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



6.2 Integration Interface Requirement

6.2.1 MIPI/TP Connector Description

Physical interface is described as for the connector on module.

These connectors are capable of accommodating the following signals and will be following components.

Connector Name / Designation	For Signal Connector
Manufacturer	Panasonic
Type / Part Number	AYF333935
Mating Housing/Part Number	FPC or Compatible

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MIPI is a differential signal technology for LCD interface and high speed data transfer device.

	Signal Name	Description
1	VLED	Anode for BLU
2	VLED	Anode for BLU
3	NC	No connection
4	NC	No connection
5	VLED_lsink1	Current sink for LED String 1
6	VLED_Isink2	Current sink for LED String 2
7	VLED_lsink3	Current sink for LED String 3
8	VLED_lsink4	Current sink for LED String 4
9	NC	No connection
10	GND	Ground
11	RST	Device reset signal (1.8V)
12	NC	No connection (AUO OTP Use)
13	SDA	For AUO internal use
14	SCL	For AUO internal use
15	GND	Ground
16	DSI_D2P	MIPI input data pair
17	DSI_D2N	MIPI input data pair
18	GND	Ground
19	DSI_D1P	MIPI input data pair
20	DSI_D1N	MIPI input data pair
21	GND	Ground
22	DSI_CLKP	MIPI input CLK pair
23	DSI_CLKN	MIPI input CLK pair
24	GND	Ground
25	DSI_D0P	MIPI input data pair
26	DSI_D0N	MIPI input data pair
27	GND	Ground
28	DSI_D3P	MIPI input data pair
29	DSI_D3N	MIPI input data pair
30	GND	Ground
31	ID0	1 (預留 0 ohm 對 GND 電阻,電阻預設不上件)
32	ID1	0 (預留 0 ohm 對 GND 電阻,電阻預設上件)
33	NC	No connection
34	ID2	1 (預留 0 ohm 對 GND 電阻,電阻預設不上件)
35	VDD	Power supply(3.3V)

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36	VDD	Power supply(3.3V)
37	VDD	Power supply(3.3V)
38	Core_VDD	Power supply for T/CON Logic(1.8V)
39	Core_VDD	Power supply for T/CON Logic(1.8V)

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6.3 MIPI Interface Timing

6.3.1 Timing Characteristics

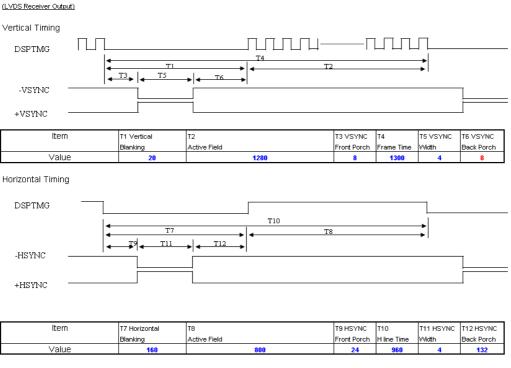
Basically, interface timings should match the 800 x 1280 /60 Hz manufacturing guide line timing.

Vertical Total	VT (tv)	1300	line
Vertical Front-Porch	VFP (tvfp)	8	line
Vertical Active	VA (tvd)	1280	line
Vertical Sync.	VS (tw)	4	line
Vertical Back-Porch	VBP (tvbp)	8	line
Horizontal Total	HT (th)	960	clk(pixel)
Horizontal Front-Porch	HFP (thfp)	24	clk(pixel)
Horizontal Active	HA (thd)	800	clk(pixel)
Horizontal Sync.	HS (thw)	4	clk(pixel)
Horizontal Back-Porch	HBP (thbp)	132	clk(pixel)
Pixel Frequency	CLK (fc)	75.00	MHz

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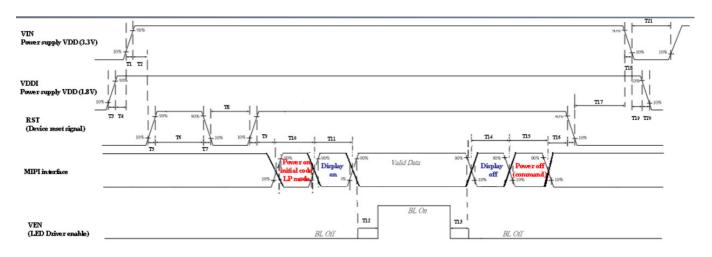


Dot Timing Item Dot Clock Frequency Data Clock Frequency Value 75MHz Dot Clock Frequency

6.4 Power ON(Wake Up)/OFF(Stand-by) sequence

6.4.1 Power

Power on/off sequence is as follows. Interface signals and LED on/off sequence are also shown in the chart.



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	Power Sequence	e Timing	
	Va	lue	
Parameter	Min.	Max.	Units
T1	0.5	10	
T2	1	-	
Т3	0.5	10	
T4	0	50	
Т5	0	0.002	
Т6	1	-	
T7	0	0.002	
Т8	0.01	-	
Т9	5	-	
T10	180	-	
T11	33.4	-	ms
T12	200	-	
T13	200	-	
T14	33.4	-	
T15	180	-	
T16	50	-	
T17	120	-	
T18	0	10	
T19	0	10	
T20	0	10	
T21	500	-	

6.4.2 MIPI Command

T10 : power on => initial code + sleep out(0x11) (by panel different)

T11: display on (0x29)

T14: display off (0x28)

T15: power off => sleep in (0x10)



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7. Panel Reliability Test

7.1 Vibration Test

Test Spec:

Test method: Non-Operation

Acceleration: 1.5 G

Frequency: 10 - 500Hz Random

• Sweep: 30 Minutes each Axis (X, Y, Z)

7.2 Shock Test

Test Spec:

Test method: Non-Operation

Acceleration: 220 G, Half sine wave

Active time: 2 ms

Pulse: X,Y,Z .one time for each side

7.3 Reliability Test

Items	Required Condition	Note
Temperature Humidity Bias	Ta= 40°C, 90%RH, 300h	
High Temperature Operation	Ta= 50°C, Dry, 300h	
Low Temperature Operation	Ta= 0°C, 300h	
High Temperature Storage	Ta= 60°C, 300h	
Low Temperature Storage	Ta= -20℃, 300h	
Thermal Shock Test	Ta=-20°C to 60°C, Duration at 30 min, 100 cycles	
ESD	Contact : ±8 KV	Note 1
	Air: ±15 KV	

Note1: According to EN 61000-4-2, ESD class B: Some performance degradation allowed. No data lost

. Self-recoverable. No hardware failures.

Remark: MTBF (Excluding the LED): 30,000 hours with a confidence level 90%

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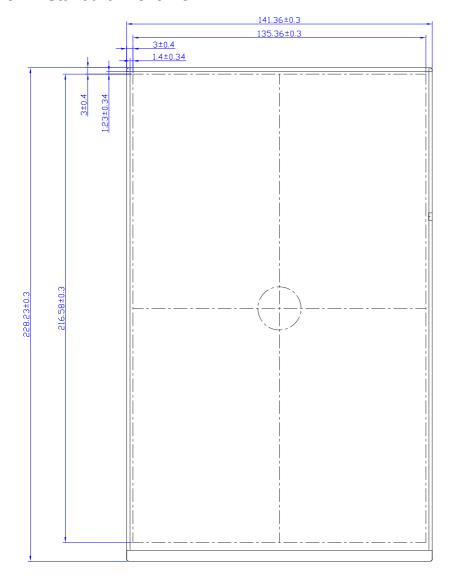


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8. Mechanical Characteristics

8.1 LCM Outline Dimension

8.1.1 Standard Front View

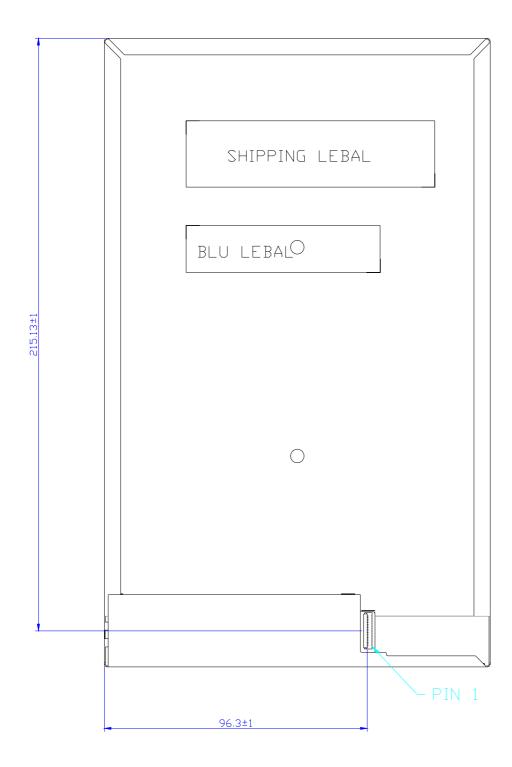




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9. Shipping and Package

9.1 Shipping Label Format



Manufactured YY/WW
Model No: B101EAN02.0
AU Optronics
MADE IN CHINA (Z30)
H/W: OA F/W:O













Manufactured YY/WW
Model No: B101EAN02.0
AU Optronics
MADE IN CHINA (Z31)
H/W: OA F/W:0









9.2 Carton Label Format

AU Optronics

QTY: 56

RoHS

MODEL NO:

B101EAN02.0

PART NO :

97.10B56.000

CUSTOMER NO :

CARTON NO:



xxxxxx-xxxxxxxxxx

MADE IN CHINA



AU OPTRONICS CORPORATION

AU Optronics QTY: 48

RoHS

MODEL NO: B101EAN02.0

(Pb

PART NO: 97.10856.001

(15)

CUSTOMER NO:

CARTON NO:



xxxxxx-xxxxxxxxxxx

MADE IN CHINA