Product Specification

LD320EUY-SQA3-BL2K

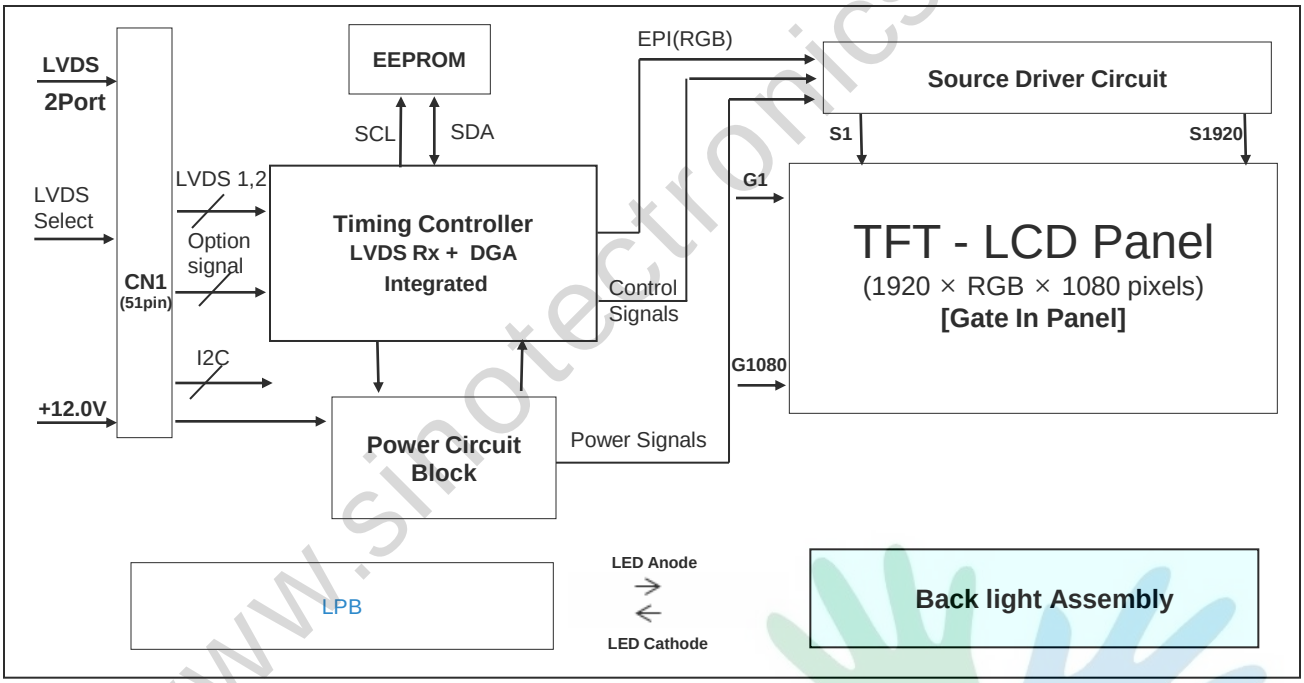
CUSTOMER	R/A Customer
DATE OF ISSUE	2016/06/19

MODEL NO.	FS320-D20-PD
EXTENSION CODE	-V(1)

Customer Approval & Feedback

1. General Description

The LD320EUY is a Color Active Matrix Liquid Crystal Display with an integral Light Emitting Diode (LED) backlight system. The matrix employs a-Si Thin Film Transistor as the active element.
It is a transmissive display type which is operating in the normally black mode. It has a 31.55 inch diagonally measured active display area with WUXGA resolution (1080 vertical by 1920 horizontal pixel array). Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arrayed in vertical stripes. Gray scale or the luminance of the sub-pixel color is determined with a 8-bit gray scale signal for each dot. Therefore, it can present a palette of more than 16.7Milion colors.
It has been designed to apply the 8-bit 2-port LVDS interface.
It is intended to support Commercial Display where high brightness, super wide viewing angle, high color gamut, high color depth and fast response time are important.



General Features

Active Screen Size	31.55 inches(801.31 mm) diagonal
Outline Dimension	731.0(H) × 430.5(V) X48.2 mm(D) (Typ.)
Pixel Pitch	0.36375 mm x 0.36375 mm
Pixel Format	1920 horiz. by 1080 vert. Pixels, RGB stripe arrangement
Color Depth	8bit, 16.7 Million colors
Luminance, White	2000cd/m^2 (Center 1point ,Typ.)
Viewing Angle (CR>10)	Viewing angle free (R/L 178 (Min.), U/D 178 (Min.))
Power Consumption	Total 102.3W(Typ.) [Logic= 6.3W(Typ.) /8.2W(Max.), BLU=96.0W(Typ.) /
Weight	3.6Kg(Typ.), 4Kg(Max.)
Display Mode	Transmissive mode, Normally black
Surface Treatment	Hard coating(3H), Anti-glare treatment of the front polarizer, Haze 1%(Typ.)
Possible Display Type	Landscape and Portrait Enabled

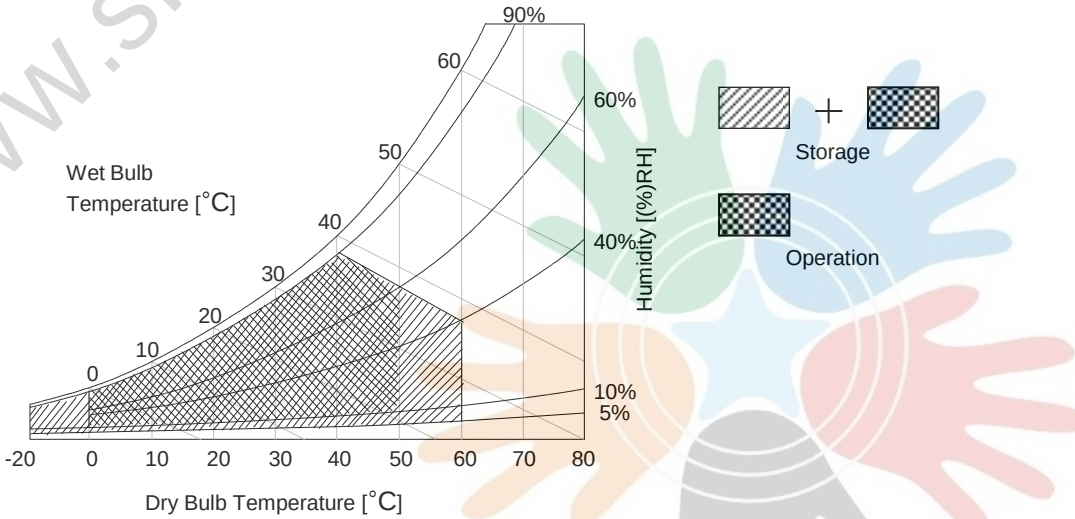
2. Absolute Maximum Ratings

The following items are maximum values which, if exceeded, may cause faulty operation or permanent damage to the LCD module.

Table 1. ABSOLUTE MAXIMUM RATINGS (Only Panel and Circuit Part of LCD Module)

Parameter		Symbol	Value		Unit	Note
			Min	Max		
Power Input Voltage	LCD Circuit	VLCD	-0.3	+14.0	VDC	1
LED Input Voltage	Forward Voltage	VF	-	127.8	VDC	
T-Con Option Selection Voltage		VLOGIC	-0.3	+4.0	VDC	
Operating Temperature		TOP	-20	+70	°C	2,3
Storage Temperature		TST	-20	+70	°C	
Panel Front Temperature		TSUR	-	+68	°C	4
Operating Ambient Humidity		HOP	10	90	%RH	2,3
Storage Humidity		HST	5	95	%RH	

Note 1. Ambient temperature condition (Ta = 25 ± 2 °C)



3. Electrical Specifications

3-1. Electrical Characteristics

It requires two power inputs. One is employed to power for the LCD circuit. The other Is used for the LED backlight and LED Driver circuit.

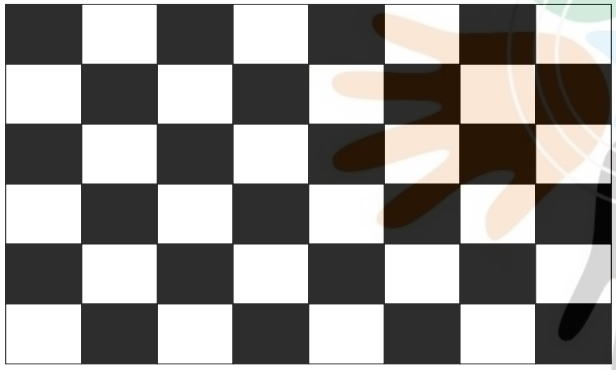
Table 2. ELECTRICAL CHARACTERISTICS

Parameter		Symbol	Value			Unit	Note
			Min	Typ	Max		
Circuit :							
Power Input Voltage		V_{LCD}	10.8	12.0(12.7)	14.0	V_{DC}	5
Power Input Current		I_{LCD}	-	525(505)	683	mA	1
			-	705(675)	917	mA	2
T-CON Option Selection Voltage	Input High Voltage	V_{IH}	2.7	-	3.6	V_{DC}	
	Input Low Voltage	V_{IL}	0	-	0.7	V_{DC}	
Power Consumption		P_{LCD}	-	6.3(6.1)	8.2	Watt	1
Rush current		I_{RUSH}	-	-	5.0	A	3

notes

1. The specified current and power consumption are under the V_{LCD}=12.0V, Ta=25 ± 2°C, f_V=60Hz condition, and mosaic pattern(8 x 6) is displayed and f_V is the frame frequency.
2. The current is specified at the maximum current pattern.
3. The duration of rush current is about 2ms and rising time of power input is 0.5ms (min.).
4. Ripple voltage level is recommended under ±5% of typical voltage.
5. VLCD Should be under the maximum voltage include the ripple
5. Maximum of power input voltage is included with ripple.

White : 255 Gray
Black : 0 Gray



Mosaic Pattern(8 x 6)

Table 3. ELECTRICAL CHARACTERISTICS (Continue) : Reference Data

Parameter	Symbol	Values			Unit	Note
		Min	Typ	Max		
Backlight Assembly : No guarantee, for reference only						
Forward Current (one array)	I_F		4.0		Adc	±5% 1,2
Forward Voltage	V_F		24.0		Vdc	3
Power Consumption	P_{BL}	-	96.0		W	6
Burst Dimming Duty	On duty	1		100	%	
Burst Dimming Frequency	1/T	95		182	Hz	8
LED Array : (APPENDIX-V)						
Life Time		30,000			Hrs	7

Notes :The design of the LED driver must have specifications for the LED array in LCD Assembly.
The electrical characteristics of LED driver are based on Constant Current driving type.
The performance of the LED in LCM, for example life time or brightness, is extremely influenced by the characteristics of the LED Driver. So, all the parameters of an LED driver should be carefully designed.
When you design or order the LED driver, please make sure unwanted lighting caused by the mismatch of the LED and the driver (no lighting, flicker, etc) has never been occurred. When you confirm it, the LCD–Assembly should be operated in the same condition as installed in your instrument.

1. Electrical characteristics are based on LED Array specification
2. Specified values are defined for a Backlight Assembly. (IBL :**3 LED Array/LCM**)
3. Each LED array has 1 anode terminal and 1 cathode terminals.
4. The forward voltage(V_F) of LED array depends on ambient temperature
5. ΔV_F means Max string VF – Min string VF in one Backlight. So V_F variation in a Backlight isn't over Max. 1.7V
6. Maximum level of power consumption is measured at initial turn on.
   Typical level of power consumption is measured after 1hrs aging at 25 ± 2°C.
7. The life time(MTTF) is determined as the time at which brightness of the LED is 50% compared to that of initial value at the typical LED current on condition of continuous operating at 25 ± 2°C, based on duty 100%.
8. The reference method of burst dimming duty ratio.
   It is recommended to use synchronous V-sync frequency to prevent waterfall
   (Vsync * 2 =Burst Frequency)
   Though PWM frequency is over 182Hz (max252Hz), function of backlight is not affected.

3-2. Interface Connections

This LCD module employs two kinds of interface connection, 51-pin connector is used for the module electronics.

3-2-1. LCD Module

- LCD Connector(CN1) : FI-RXE51S-HF(manufactured by JAE) or GT05S-51S-H38(manufactured by LSM) or IS050-C51B-C39-C(manufactured by UJU)
- Mating Connector : FI-R51HL(JAE) or compatible

Table 4. MODULE CONNECTOR(CN1) PIN CONFIGURATION

No	Symbol	Description	No	Symbol	Description
1	NC or GND	No Connection or Ground	27	NC	No connection
2	NC	No Connection (notes 4)	28	R2AN	SECOND LVDS Receiver Signal (A-)
3	NC	No Connection (notes 4)	29	R2AP	SECOND LVDS Receiver Signal (A+)
4	NC	No Connection (notes 4)	30	R2BN	SECOND LVDS Receiver Signal (B-)
5	NC	No Connection (notes 4)	31	R2BP	SECOND LVDS Receiver Signal (B+)
6	NC	No Connection (notes 4)	32	R2CN	SECOND LVDS Receiver Signal (C-)
7	LVDS Select	'H' =JEIDA , 'L' or NC = VESA	33	R2CP	SECOND LVDS Receiver Signal (C+)
8	NC	No Connection (notes 4)	34	GND	Ground
9	NC	No Connection (notes 4)	35	R2CLKN	SECOND LVDS Receiver Clock Signal(-)
10	NC	No Connection (notes 4)	36	R2CLKP	SECOND LVDS Receiver Clock Signal(+)
11	GND	Ground	37	GND	Ground
12	R1AN	FIRST LVDS Receiver Signal (A-)	38	R2DN	SECOND LVDS Receiver Signal (D-)
13	R1AP	FIRST LVDS Receiver Signal (A+)	39	R2DP	SECOND LVDS Receiver Signal (D+)
14	R1BN	FIRST LVDS Receiver Signal (B-)	40	NC	No connection
15	R1BP	FIRST LVDS Receiver Signal (B+)	41	NC	No connection
16	R1CN	FIRST LVDS Receiver Signal (C-)	42	NC or GND	No Connection or Ground
17	R1CP	FIRST LVDS Receiver Signal (C+)	43	NC or GND	No Connection or Ground
18	GND	Ground	44	GND	Ground (notes 5)
19	R1CLKN	FIRST LVDS Receiver Clock Signal(-)	45	GND	Ground
20	R1CLKP	FIRST LVDS Receiver Clock Signal(+)	46	GND	Ground
21	GND	Ground	47	NC	No connection
22	R1DN	FIRST LVDS Receiver Signal (D-)	48	VLCD	Power Supply +12.0V
23	R1DP	FIRST LVDS Receiver Signal (D+)	49	VLCD	Power Supply +12.0V
24	NC	No connection	50	VLCD	Power Supply +12.0V
25	NC	No connection	51	VLCD	Power Supply +12.0V
26	NC or GND	No Connection or Ground	-	-	-

notes

1. All GND(ground) pins should be connected together to the LCD module's metal frame.
2. All V_{LCD} (power input) pins should be connected together.
3. All Input levels of LVDS signals are based on the **EIA 644** Standard.
4. #1~#6 & #8~#10 NC (No Connection): These pins are used only for LGD (Do not connect)
5. Specific pin No. **#44** is used for "No signal detection" of system signal interface.
   It should be GND for NSB(No Signal Black) during the system interface signal is not.
   If this pin is "H", LCD Module displays AGP(Auto Generation Pattern).

3-2-2. Backlight Module

Table (CN1):Input terminal PH2.0-6(2.0mmX14)

PIN #	Symbol	Description
1	V_{DDB}	Operating Voltage Supply, +24V DC Regulated
2	V_{DDB}	Operating Voltage Supply, +24V DC Regulated
3	V_{DDB}	Operating Voltage Supply, +24V DC Regulated
4	V_{DDB}	Operating Voltage Supply, +24V DC Regulated
5	V_{DDB}	Operating Voltage Supply, +24V DC Regulated
6	GND	Ground
7	GND	Ground
8	GND	Ground
9	GND	Ground
10	GND	Ground
11		Not connect
12	VBLON	BL On-Off: High (2.5~5.5V) for BL , Low/Open (0~0.5V) for BL **off**
13	VDIM (note 1)	**Internal PWM Dimming** High (5.5V/100% Duty) for 100% Lum; <NC; when external PWM>
14	PDIM (note 1)	<NC; when internal PWM>

Note (1) PWM dimming function is included internal PWM and external PWM. Internal PWM: input voltage 0 (GND) ~5.5V to pin 13th, and duty ratio of output voltage/current of inverter is from 30% to 100%. When use pin 13th to control

3-3. Signal Timing Specifications

Table 6 shows the signal timing required at the input of the LVDS transmitter. All of the interface signal timings should be satisfied with the following specification for normal operation.

Table 6. TIMING TABLE for NTSC & PAL(DE Only Mode)

ITEM		Symbol	Min	Typ	Max	Unit	notes
Horizontal	Display Period	t_{HV}	960	960	960	tCLK	1920 / 2
	Blank	t_{HB}	100	140	240	tCLK	1
	Total	t_{HP}	1060	1100	1200	tCLK	
Vertical	Display Period	t_{VV}	1080	1080	1080	Lines	
	Blank	t_{VB}	20	45	300	Lines	1
	Total	t_{VP}	1100	1125	1380	Lines	

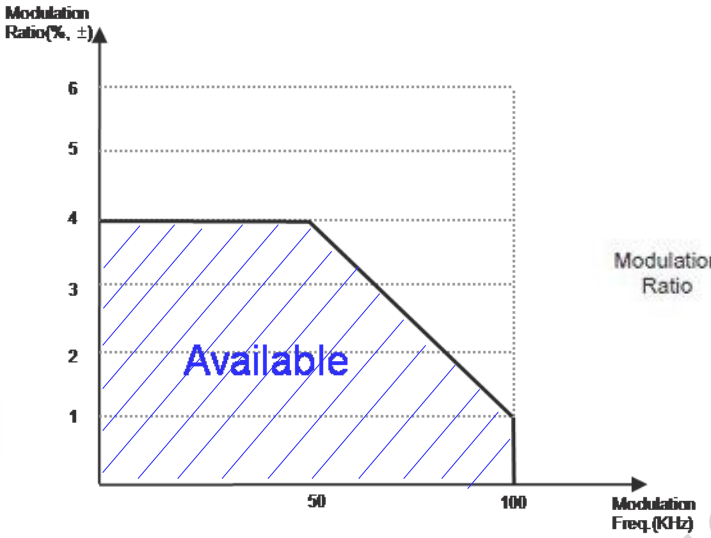
ITEM		Symbol	Min	Typ	Max	Unit	notes
Frequency	DCLK	f_{CLK}	60.00	74.25	78.00	MHz	
	Horizontal	f_H	57.3	67.5	70	KHz	2
	Vertical	f_V	47	60	63	Hz	2

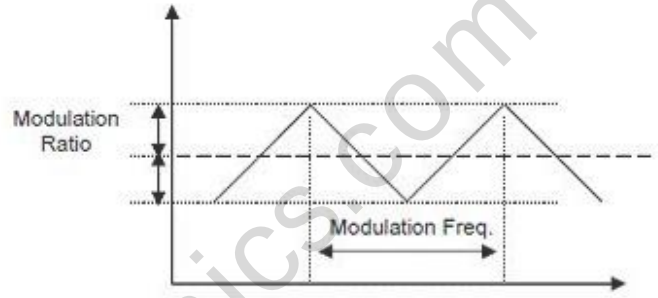
Note: 1. The input of HSYNC & VSYNC signal does not have an effect on normal operation (DE Only Mode). If you use spread spectrum of EMI, add some additional clock to minimum value for clock margin.

2. The performance of the electro-optical characteristics may be influenced by variance of the vertical refresh rate and the horizontal frequency

3. Spread Spectrum Rate (SSR) for 50KHz ~ 100kHz Modulation Frequency(FMOD) is calculated by (7 – 0.06*Fmod), where Modulation Frequency (FMOD) unit is KHz.
LVDS Receiver Spread spectrum Clock is defined as below figure

※ Timing should be set based on clock frequency.





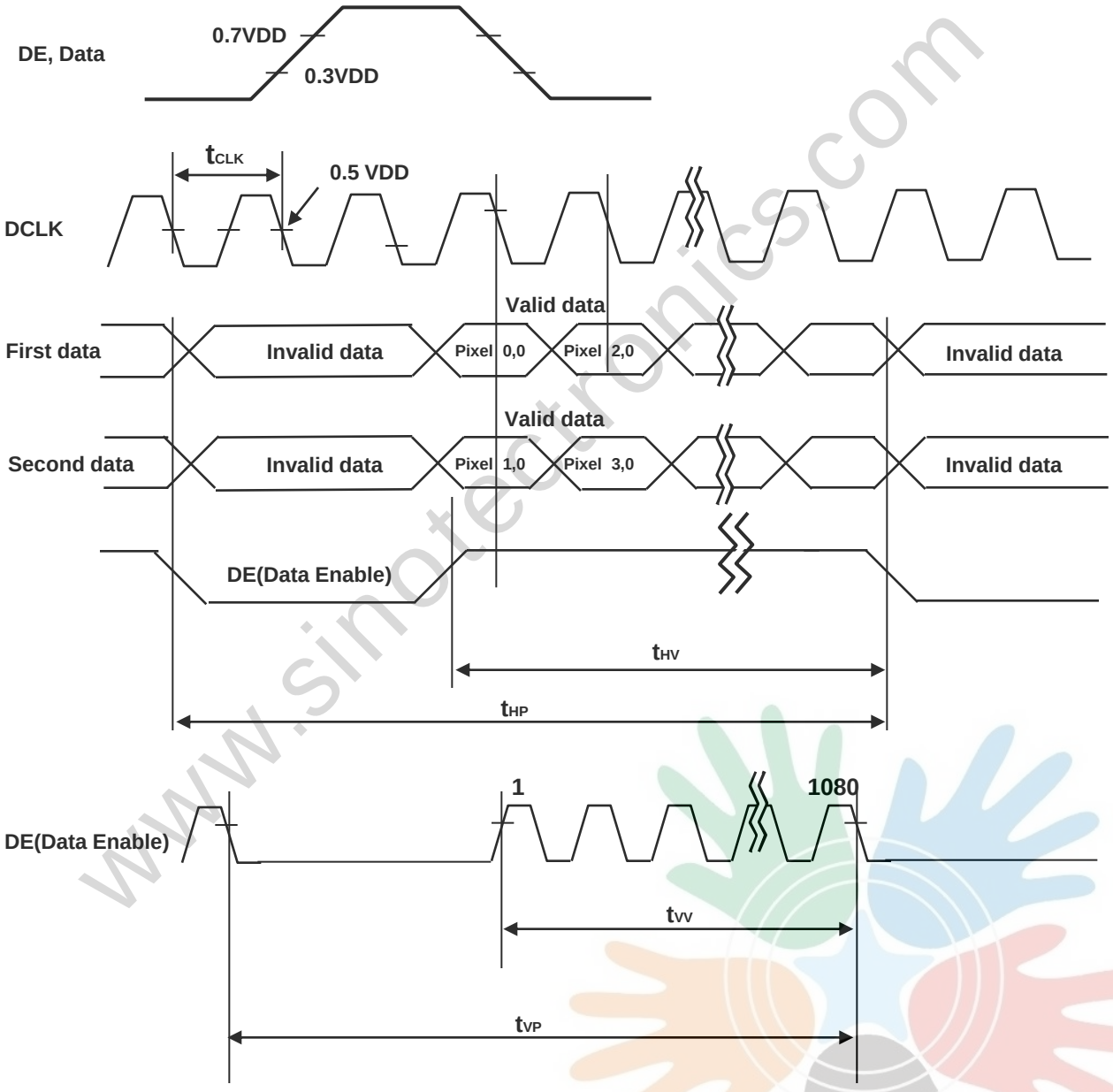
※ Please pay attention to the followings when you set Spread Spectrum Rate(SSR) and Modulation Frequency(FMOD)

1. Please set proper Spread Spectrum Rate(SSR) and Modulation Frequency (FMOD) of TV system LVDS output.

2. Please check FOS after you set Spread Spectrum Rate(SSR) and Modulation Frequency(FMOD) to avoid abnormal display. Especially, harmonic noise can appear when you use Spread Spectrum under FMOD 30 KHz.

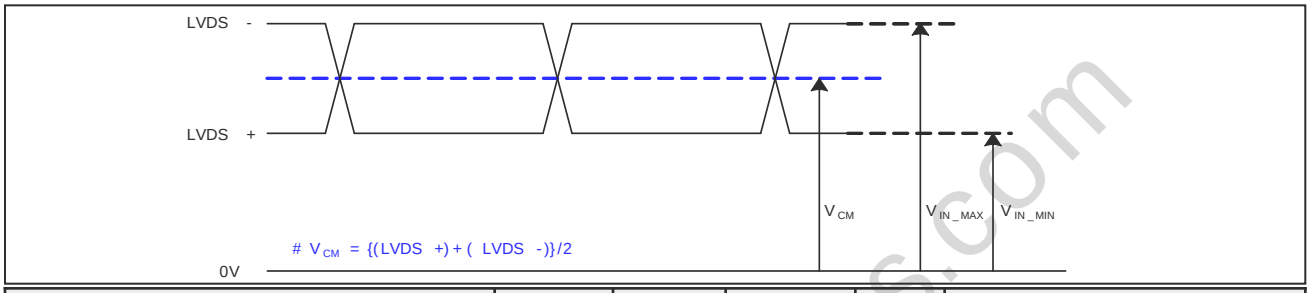
3-4. LVDS Signal Specification

3-4-1. LVDS Input Signal Timing Diagram



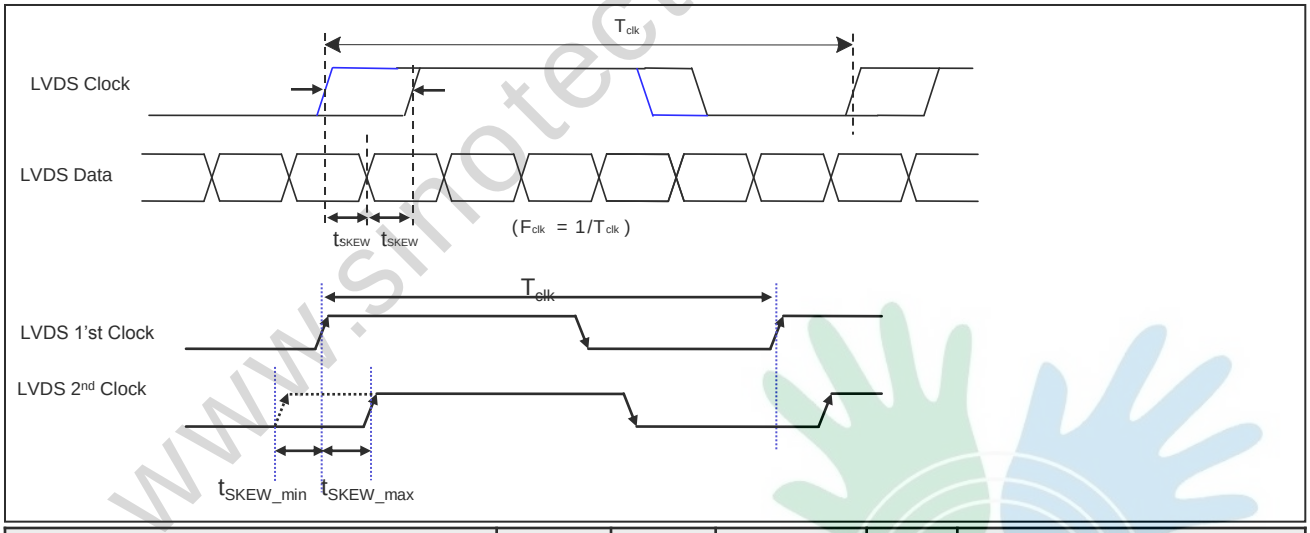
3-4-2. LVDS Input Signal Characteristics

1) DC Specification



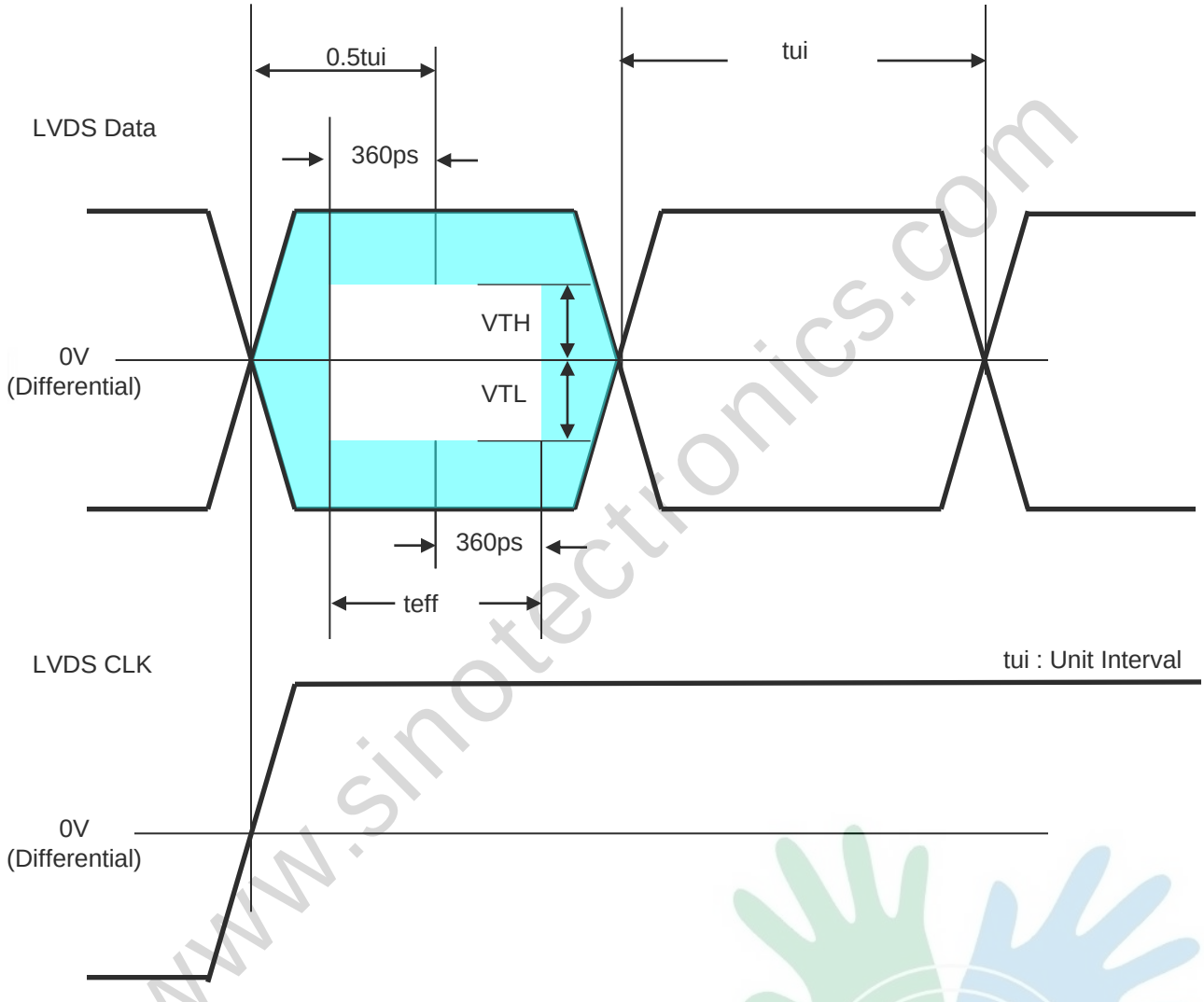
Description	Symbol	Min	Max	Unit	notes
LVDS Common mode Voltage	V_{CM}	1.0	1.5	V	-
LVDS Input Voltage Range	V_{IN}	0.7	1.8	V	-
Change in common mode Voltage	ΔVCM	-	250	mV	-

2) AC Specification



Description	Symbol	Min	Max	Unit	notes
LVDS Differential Voltage	V_{TH}	100	600	mV	Tested with Differential Probe 2
	V_{TL}	-600	-100	mV	
LVDS Clock to Data Skew	t_{SKEW}	-	$\|(0.2*T_{clk})/7\|$	ps	-
Effective time of LVDS	t_{eff}	$\|\pm 360\|$	-	ps	-
LVDS Clock to Clock Skew (Even to Odd)	t_{SKEW_EO}	-	$\|1/7* T_{clk}\|$	ps	-

notes 1. All Input levels of LVDS signals are based on the EIA 644 Standard.
2. LVDS Differential Voltage is defined within t_{eff}



* This accumulated waveform is tested with differential probe

3-5. Color Data Reference

The brightness of each primary color(red,green,blue) is based on the 8bit gray scale data input for the color. The higher binary input, the brighter the color. Table 7 provides a reference for color versus data input.

Table 7. COLOR DATA REFERENCE

Color		Input Color Data																							
		RED								GREEN								BLUE							
		MSB							LSB	MSB							LSB	MSB							LSB
		R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4	G3	G2	G1	G0	B7	B6	B5	B4	B3	B2	B1	B0
Basic Color	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red (255)	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green (255)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	Blue (255)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Cyan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Magenta	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RED	RED (000)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RED (001)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	...					...								...								...			
	RED (254)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	RED (255)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GREEN	GREEN (000)	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0	0	0	0	0	0	0	0
	GREEN (001)	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0	0	0	0	0	0	0	0
	...					...								...								...			
	GREEN (254)	0	0	0	0	0	0	0	0	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**	0	0	0	0	0	0	0	0
	GREEN (255)	0	0	0	0	0	0	0	0	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	0	0	0	0	0	0	0	0
BLUE	BLUE (000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	BLUE (001)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
	...					...								...								...			
	BLUE (254)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**0**
	BLUE (255)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

3-6. Power Sequence

3-6-1. LCD Driving circuit

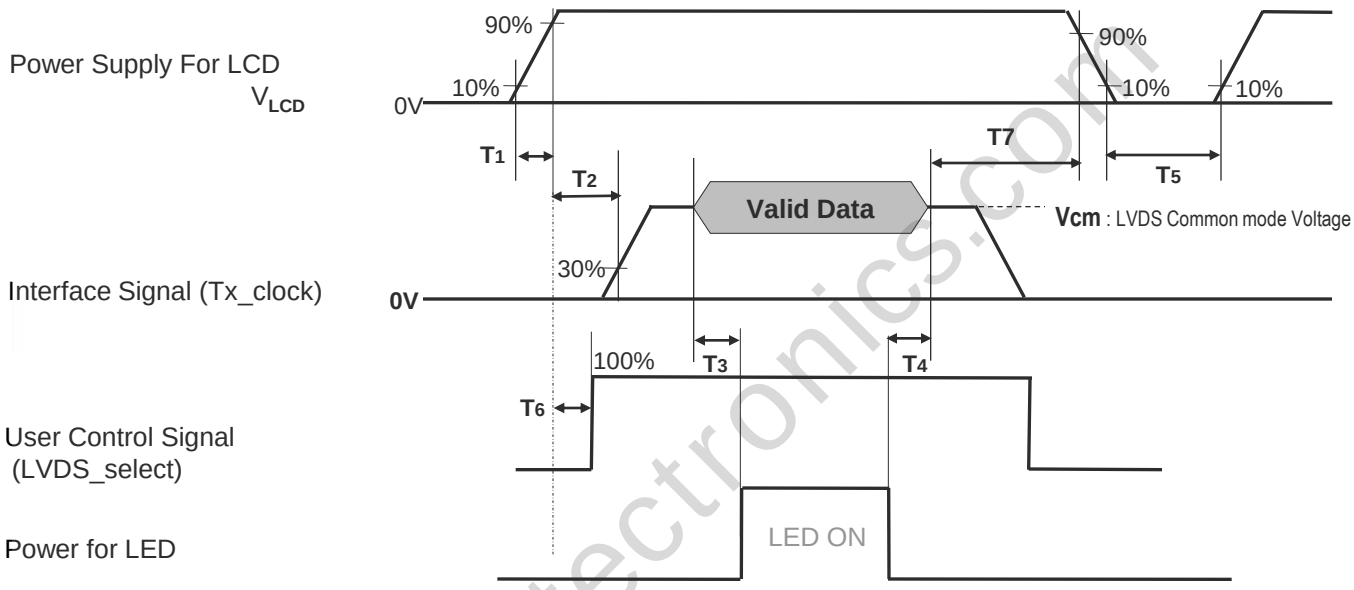


Table 8. POWER SEQUENCE

Parameter	Value			Unit	Notes
	Min	Typ	Max		
T1	0.5	-	20	ms	1
T2	0	-	-	ms	2
T3	400	-	-	ms	3
T4	100	-	-	ms	3
T5	1.0	-	-	s	4
T6	0	-	T2	ms	5
T7	0	-	-	ms	6

Note :

1. Even though T1 is over the specified value, there is no problem if I2T spec of fuse is satisfied.
2. If T2 is satisfied with specification after removing LVDS Cable, there is no problem.
3. The T3 / T4 is recommended value, the case when failed to meet a minimum specification, abnormal display would be shown. There is no reliability problem.
4. T5 should be measured after the Module has been fully discharged between power off and on period.
5. If the on time of signals (Interface signal and user control signals) precedes the on time of Power (V_{LCD}), it will be happened abnormal display. When T6 is NC status, T6 doesn't need to be measured.
6. It is recommendation specification that T7 has to be 0ms as a minimum value.

※ Please avoid floating state of interface signal at invalid period.
※ When the power supply for LCD (VLCD) is off, be sure to pull down the valid and invalid data to 0V.

4. Optical Specification

Optical characteristics are determined after the unit has been 'ON' and stable in a dark environment at 25±2°C. The values are specified at 50cm from the LCD surface at a viewing angle of Φ and θ equal to 0 °.
FIG. 1 shows additional information concerning the measurement equipment and method.

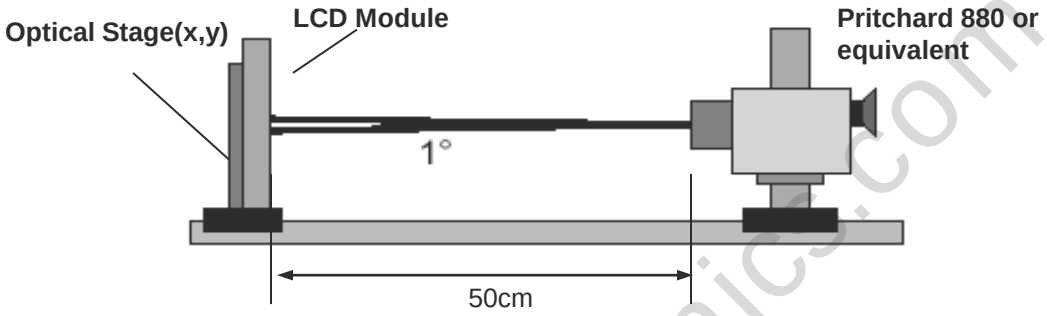


FIG. 1 Optical Characteristic Measurement Equipment and Method

Table 10. OPTICAL CHARACTERISTICS

Ta= 25±2°C, V_{LCD}=12.0V, fv=60Hz, Dclk=74.25MHz
Duty =100%

Parameter			Symbol	Value Min	Value Typ	Value Max	Unit	Note
Contrast Ratio			CR	800	1100	-		1
Surface Luminance, white			L_{WH}	1800	2000	-	cd/m^2	2
Luminance Variation			δ_{WHITE} 9P	**65**	**-**		%	2
Response Time		Gray to Gray (BW)	G to G BW		10	14	ms	4
Color Coordinates [CIE1931]		RED	Rx	Typ -0.03	0.641	Typ +0.03		
			Ry		0.332			
		GREEN	Gx		0.307			
			Gy		0.589			
		BLUE	Bx		0.149			
			By		0.063			
		WHITE	Wx	Typ -0.035 (-0.03)	0.281	Typ +0.035 (+0.03)		
			Wy		0.288			
Color Temperature					10,000		K	
Color Gamut					68		%	
Viewing Angle	2D (CR>10)	right(ϕ=0°)	θr (x axis)	89	-	-	degree	5
		left (ϕ=180°)	θl (x axis)	89	-	-		
		up (ϕ=90°)	θu (y axis)	89	-	-		
		down (ϕ=270°)	θd (y axis)	89	-	-		
Gray Scale				-	-	-		6

Note : 1. Contrast Ratio(CR) is defined mathematically as :

$$\text{Contrast Ratio} = \frac{\text{Surface Luminance with all white pixels}}{\text{Surface Luminance with all black pixels}}$$

It is measured at center 1-point.

2. Surface luminance is determined after the unit has been 'ON' and 1 Hour after lighting the backlight in a dark environment at 25±2°C. Surface luminance is the luminance value at center 1-point across the LCD surface 50cm from the surface with all pixels displaying white. For more information see the FIG. 2.

3. The variation in surface luminance , δ WHITE is defined as :
δ WHITE(9P) = Maximum(L_{on1},L_{on2}, ~ L_{on8}, L_{on9}) / Minimum(L_{on1},L_{on2}, ~ L_{on8}, L_{on9}) * 100
Where L_{on1} to L_{on9} are the luminance with all pixels displaying white at 9 locations .
For more information, see the FIG. 2.

4. Response time is the time required for the display to transit from any gray to white (Rise Time, Tr_R) and from any gray to black (Decay time, Tr_D). For additional information see the FIG. 4.
※ G to G_{BW} Spec stands for average value of all measured points.
Photo Detector : RD-80S / Field : 2 °

5. Viewing angle is the angle at which the contrast ratio is greater than 10. The angles are determined for the horizontal or x axis and the vertical or y axis with respect to the z axis which is normal to the LCD module surface. For more information, see the FIG. 5.

6. Gray scale specification
Gamma Value is approximately 2.2. For more information, see the Table 10.

Table 10. Gray scale specification

Gray Level	Luminance [%] (Typ)
L0	0.08
L15	0.27
L31	1.04
L47	2.49
L63	4.68
L79	7.66
L95	11.5
L111	16.1
L127	21.6
L143	28.1
L159	35.4
L175	43.7
L191	53.0
L207	63.2
L223	74.5
L239	86.7
L255	100

Measuring point for surface luminance & measuring point for luminance variation.

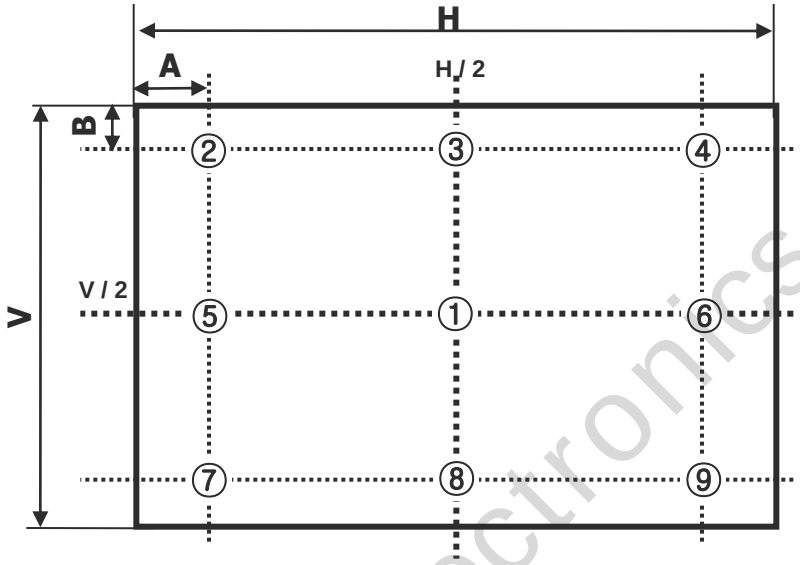


FIG. 2 9Points for Luminance Measure

Response time is defined as the following figure and shall be measured by switching the input signal for “Gray(N)” and “Black or White”.

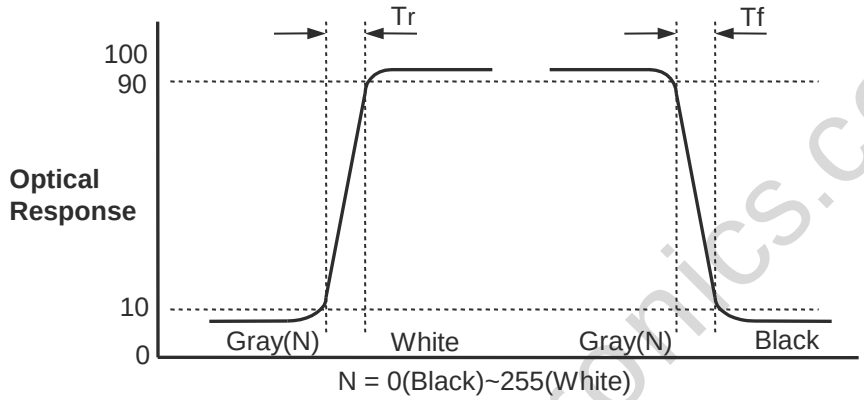


FIG. 4 Response Time

Dimension of viewing angle range

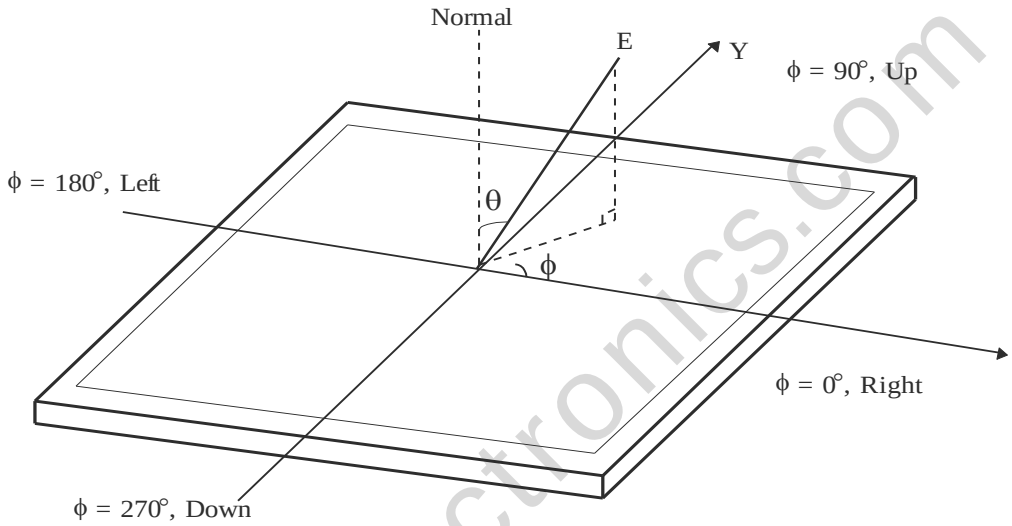


FIG. 5 Viewing Angle

5. Mechanical Characteristics

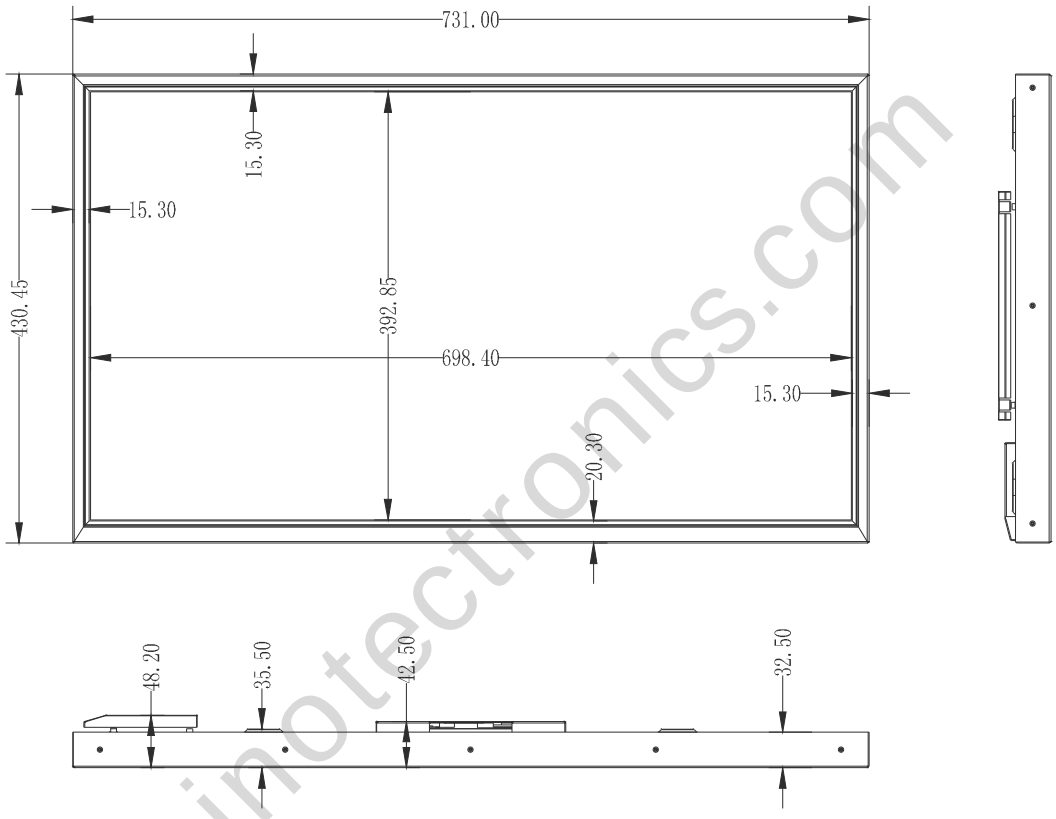
Table 12 provides general mechanical characteristics.

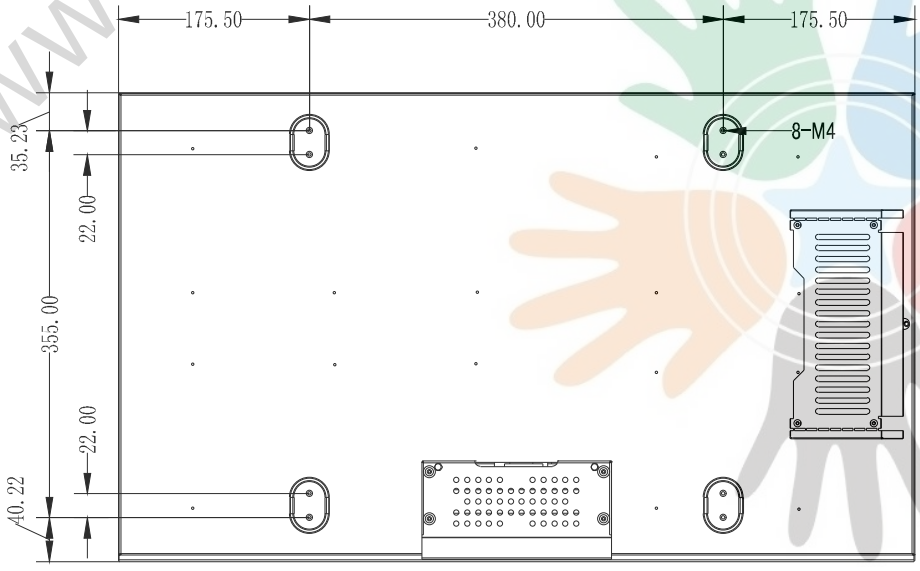
Table 12. MECHANICAL CHARACTERISTICS

Item	Value	
Outline Dimension	Horizontal	731.0mm
	Vertical	430.5mm
	Depth	48.2 mm
Active Display Area	Horizontal	698.4 mm
	Vertical	392.85 mm
Case Top (PCM)	EGI PCM Black	
Weight	3.6Kg(Typ.) 4Kg(Max.)	

Note : Please refer to a mechanical drawing in terms of tolerance at the next page.

[FRONT VIEW]





6. Reliability

Table 13. ENVIRONMENT TEST CONDITION

No.	Test Item	Condition
1	High temperature storage test	Ta= 60˚C 90% 240h
2	Low temperature storage test	Ta= -20˚C 240h
3	High temperature operation test	Ta= 50˚C 50%RH 500h
4	Low temperature operation test	Ta= 0˚C 500h
5	Humidity condition Operation	Ta= 40 ˚C, 90%RH
6	Altitude operating storage / shipment	0 – 16,400 ft 0 - 40,000 ft
7	Panel Push Test (Module Condition)	Max 6kgf

Note : 1. Before and after Reliability test, LCM should be operated with normal function.
2. These conditions are for LGD's internal test. Please refer to Absolute Maximum Ratings (Table1) for guaranteed condition.

APPENDIX- II-1

■ LCM Label