

























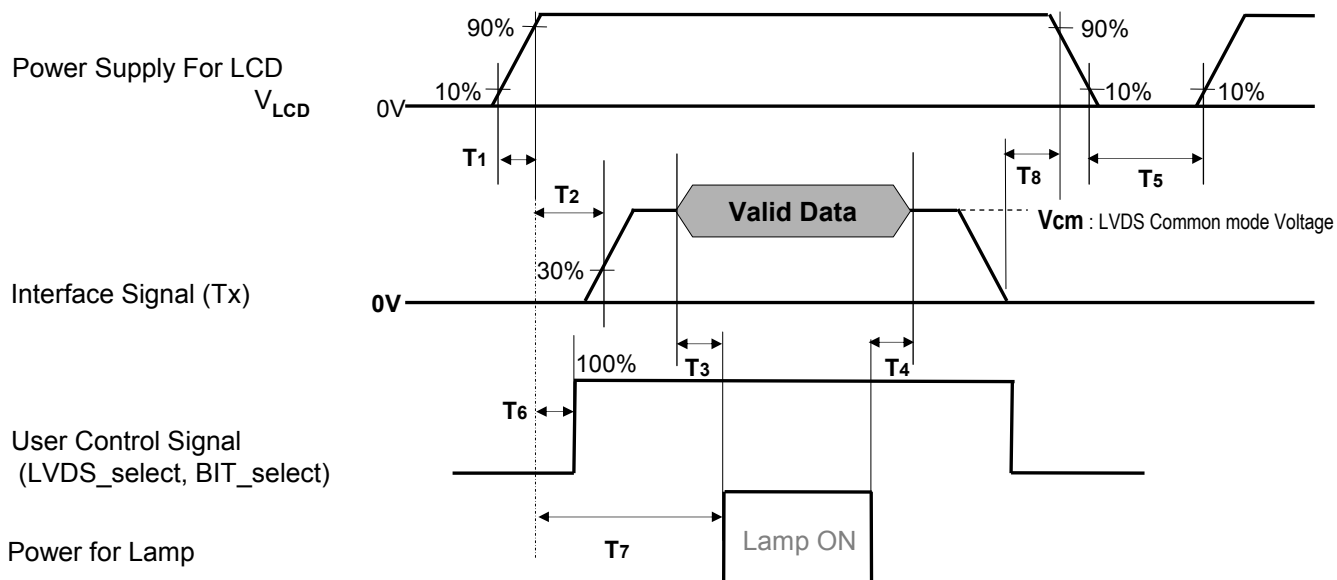






### 3-6. Power Sequence

#### 3-6-1. LCD Driving circuit



**Table 8. POWER SEQUENCE**

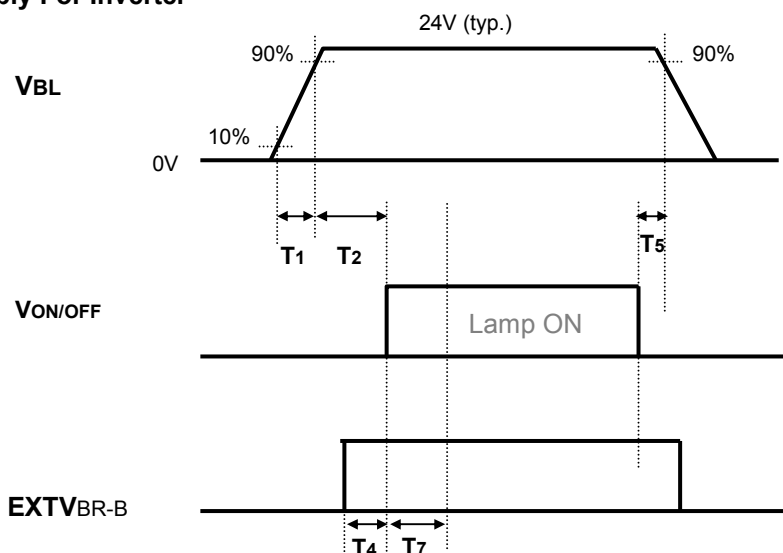
Parameter	Value			Unit	Notes
	Min	Typ	Max		
T1	0.5	-	20	ms	
T2	0	-	-	ms	4
T3	200	-	-	ms	3
T4	200	-	-	ms	3
T5	1.0	-	-	s	5
T6	-	-	T2	ms	4
T7	0.5	-	-	S	
T8	100	-	-	ms	6

- Note : 1. Please avoid floating state of interface signal at invalid period.  
 2. When the power supply for LCD ( $V_{LCD}$ ) is off, be sure to pull down the valid and invalid data to 0V.  
 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. 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.  
 5. T5 should be measured after the Module has been fully discharged between power off and on period.  
 6. It is recommendation specification that T8 has to be 100ms as a minimum value.

## Product Specification

## 3-6-2. Sequence for Inverter

## Power Supply For Inverter



## 3-6-3. Dip condition for Inverter

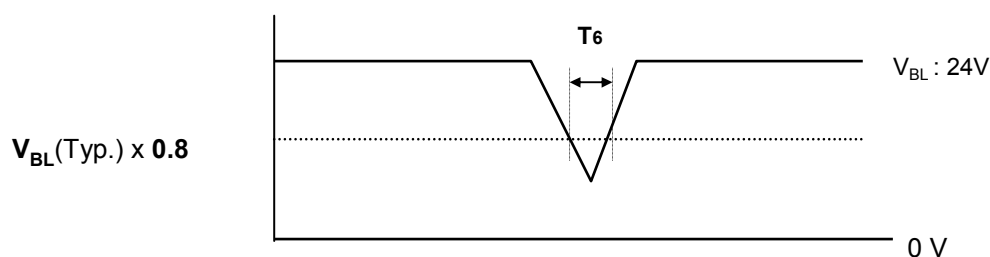


Table 9. Power Sequence for Inverter

Parameter	Values			Units	Note
	Min	Typ	Max		
T1	20	-	-	ms	1
T2	500	-	-	ms	
T4	0	-	-	ms	2
T5	10	-	-	ms	
T6	-	-	10	ms	$V_{BL}(Typ.) \times 0.8$
T7	1000	-	-	ms	2

Notes : 1. T1 describes rising time of 0V to 24V and this parameter does not applied at restarting time.

2. T4(max) is less than T2.

3. It is the recommendation to input Max Duty to Inverter\*\* for EXTVBR-B during T7 period.

\*\*When OPC Function is applied, the Max Duty is input to T-Con.

\* The recommendation of VON/OFF rising time is under 10ms.

## Product Specification

#### 4. Optical Specification

Optical characteristics are determined after the unit has been 'ON' and stable in a dark environment at  $25 \pm 2^\circ\text{C}$ . The values are specified at an approximate distance 50cm from the LCD surface at a viewing angle of  $\Phi$  and  $\theta$  equal to  $0^\circ$ .

It is presented additional information concerning the measurement equipment and method in FIG. 1.

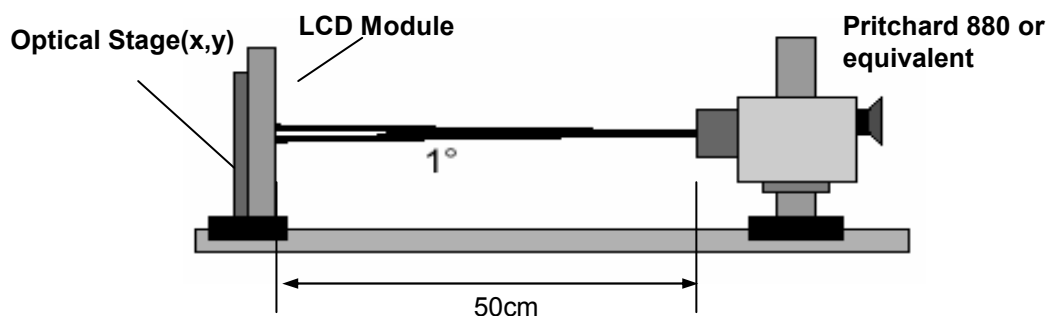


FIG. 1 Optical Characteristic Measurement Equipment and Method

$T_a = 25 \pm 2^\circ\text{C}$ ,  $V_{LCD} = 12.0\text{V}$ ,  $f_v = 120\text{Hz}$ ,  $D_{clk} = 74.25\text{MHz}$ ,  
 $EXTV_{BR-B} = 100\%$

Table 10. OPTICAL CHARACTERISTICS

Parameter	Symbol	Value			Unit	Note	
		Min	Typ	Max			
Contrast Ratio	CR	1100	1450	-		1	
Surface Luminance, white	$L_{WH}$	400	500	-	$\text{cd}/\text{m}^2$	2	
Luminance Variation	$\delta_{WHITE}$   5P	-	-	1.3		3	
Response Time	Gray-to-Gray	G to G	-	5	8	ms	4
	MPRT	MPRT	-	8	12	ms	5
	Uniformity	$\delta_{MPRT}$	-	-	1		6
	Uniformity	$\delta_{G\ TO\ G}$	-	-	1		
Color Coordinates [CIE1931]	RED	Rx	Typ -0.03	0.637	Typ +0.03		
		Ry		0.333			
	GREEN	Gx		0.287			
		Gy		0.605			
	BLUE	Bx		0.145			
		By		0.064			
	WHITE	Wx		0.279			
		Wy		0.292			
Color Temperature			10,000		K		
Color Gamut			72		%		
Viewing Angle (CR>10)							
	x axis, right ( $\phi=0^\circ$ )	$\theta_r$	89	-	-	degree	7
	x axis, left ( $\phi=180^\circ$ )	$\theta_l$	89	-	-		
	y axis, up ( $\phi=90^\circ$ )	$\theta_u$	89	-	-		
	y axis, down ( $\phi=270^\circ$ )	$\theta_d$	89	-	-		
Gray Scale			-	-	-		8

## Product Specification

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

CR(Contrast Ratio) = Maximum CR<sub>n</sub> (n=1, 2, 3, 4, 5)

$$CR_n = \frac{\text{Surface Luminance at position n with all white pixels}}{\text{Surface Luminance at position n with all black pixels}}$$

n = the Position number(1, 2, 3, 4, 5). For more information, see FIG 2.

2. Surface luminance are determined after the unit has been 'ON' and 1 Hour after lighting the backlight in a dark environment at  $25 \pm 2^\circ\text{C}$ . 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,  $\delta$  WHITE is defined as :

$$\delta \text{ WHITE}(5P) = \text{Maximum}(L_{on1}, L_{on2}, L_{on3}, L_{on4}, L_{on5}) / \text{Minimum}(L_{on1}, L_{on2}, L_{on3}, L_{on4}, L_{on5})$$

Where  $L_{on1}$  to  $L_{on5}$  are the luminance with all pixels displaying white at 5 locations .

For more information, see the FIG. 2.

4. Response time is the time required for the display to transit from G(N) to G(M) (Rise Time,  $Tr_R$ ) and from G(M) to G(N) (Decay Time,  $Tr_D$ ). For additional information see the FIG. 3. (N<M)

※ G to G Spec stands for average value of all measured points.

Photo Detector : RD-80S / Field :  $2^\circ$

5. MPRT is defined as the 10% to 90% blur-edge width  $B_{ij}$ (pixels) and scroll speed  $U$ (pixels/frame)at the moving picture. For more information, see FIG 4

6. Gray to Gray / MPRT Response time uniformity is Reference data. Please see **Appendix V-1 / V-2**.

7. 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.

8. Gray scale specification

Gamma Value is approximately 2.2. For more information, see the Table 11.

**Table 11. GRAY SCALE SPECIFICATION**

Gray Level	Luminance [%] (Typ)
L0	0.069
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

Product Specification

Measuring point for surface luminance & luminance variation

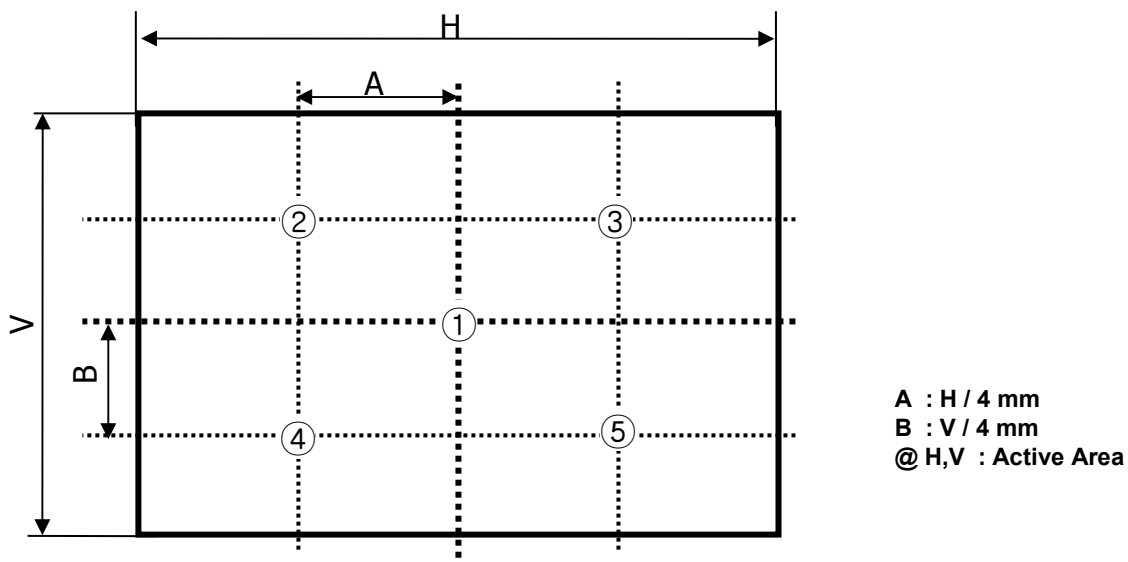


FIG. 2 5 Points for Luminance Measure

Response time is defined as the following figure and shall be measured by switching the input signal for "Gray(N)" and "Gray(M)".

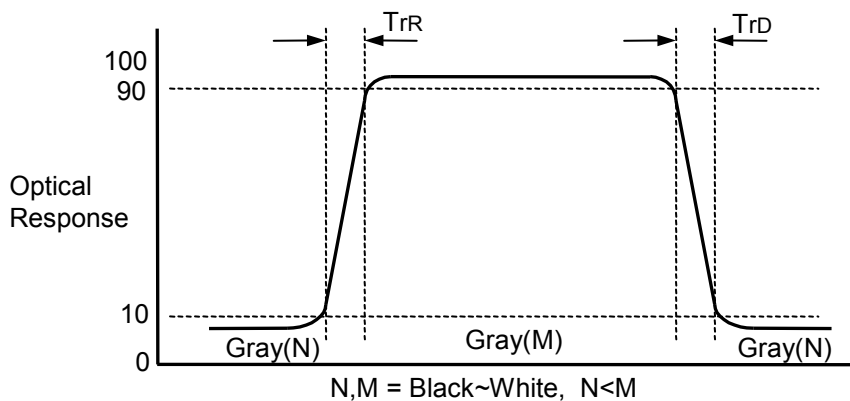
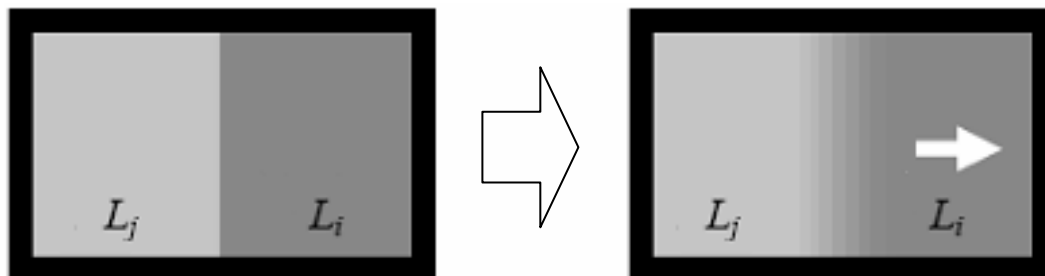


FIG. 3 Response Time

Product Specification

MPRT is defined as the 10% to 90% blur-edge with  $B_{ij}$ (pixels) and scroll speed  $U$ (pixels/frame)at the moving picture.



$$M = \frac{1}{U} B_{ij} \quad (i \neq j)$$

Example)  $B_{ij} = 12\text{pixels}$ ,  $U = 10\text{pixels} / 120\text{Hz}$

$$\begin{aligned} M &= 12\text{pixels} / (10\text{pixels} / 120\text{Hz}) \\ &= 12\text{pixels} / \{10\text{pixels} / (1/120)\text{s}\} \\ &= 12 / 1,200 \text{ s} \\ &= 10 \text{ ms} \end{aligned}$$

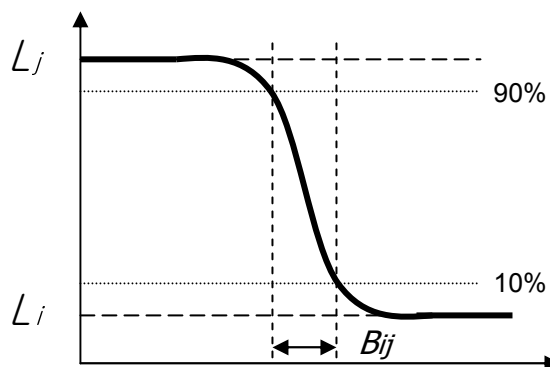


FIG. 4 MPRT

Dimension of viewing angle range

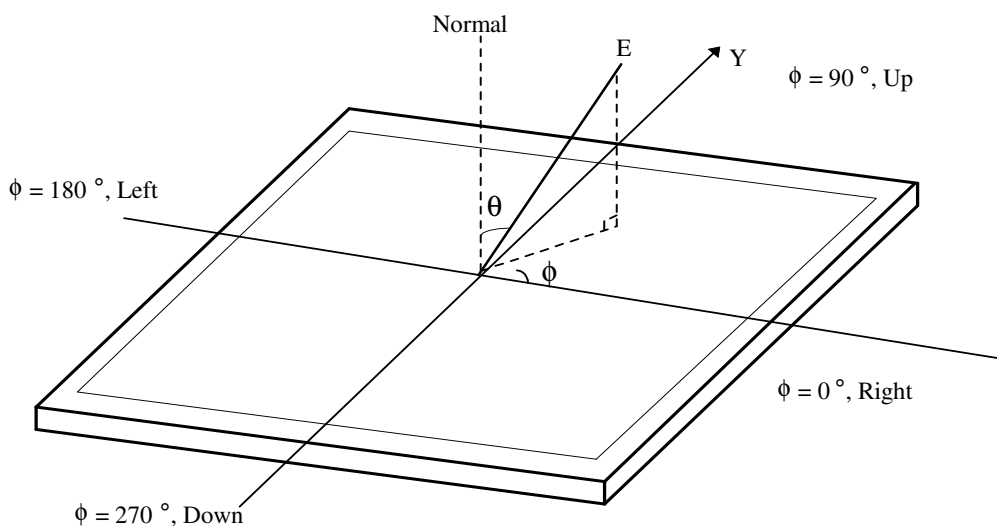


FIG. 5 Viewing Angle

## Product Specification

**5. Mechanical Characteristics**

Table 12 provides general mechanical characteristics.

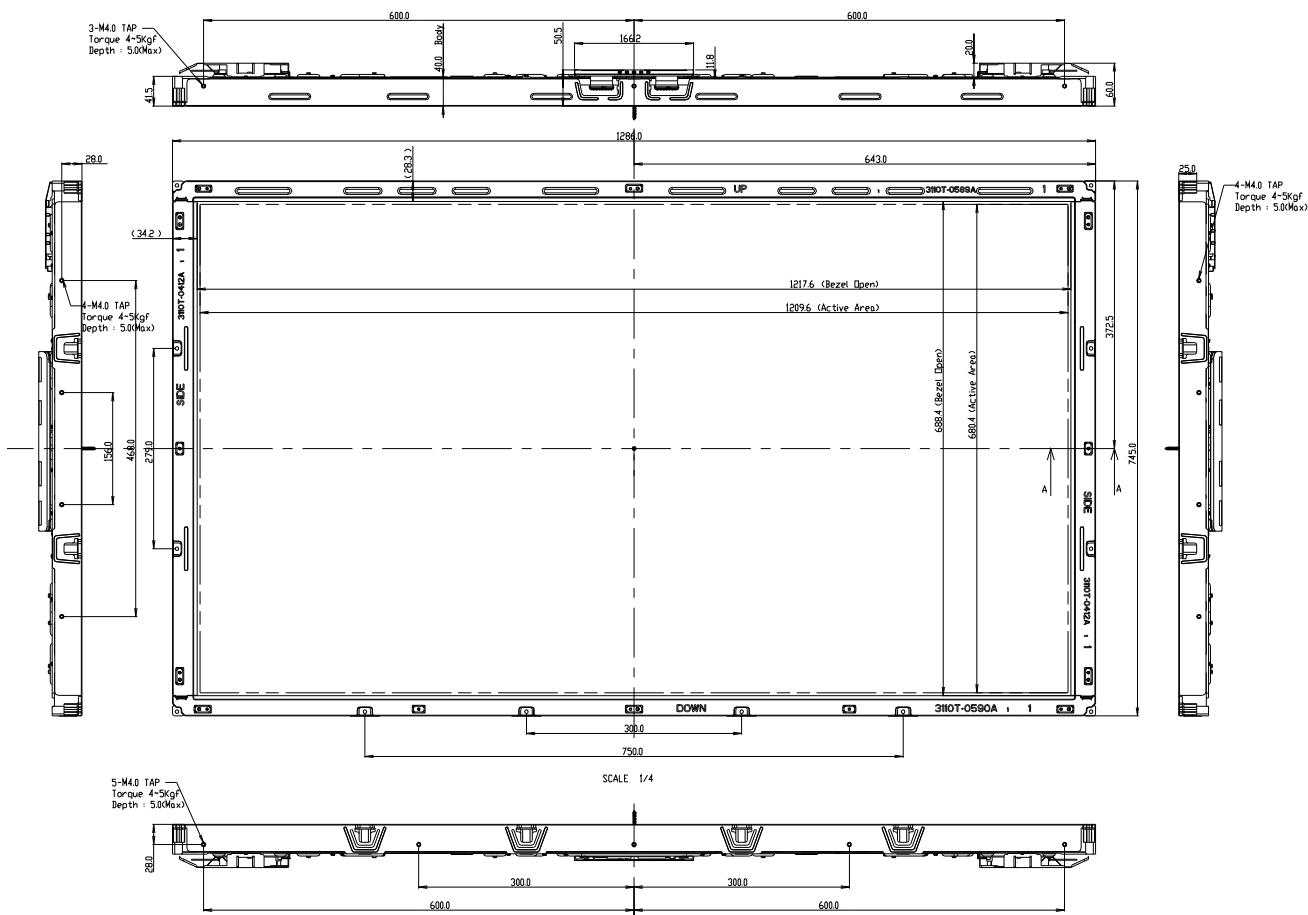
**Table 12. MECHANICAL CHARACTERISTICS**

Item	Value	
Outline Dimension	Horizontal	1286.0 mm
	Vertical	745.0 mm
	Depth	60.0 mm
Bezel Area	Horizontal	1217.6 mm
	Vertical	688.4 mm
Active Display Area	Horizontal	1209.6 mm
	Vertical	680.4 mm
Weight	19.5 Kg (Typ.) , 21 Kg (Max.)	

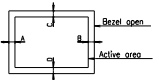
Note : Please refer to a mechanical drawing in terms of tolerance at the next page.

Product Specification

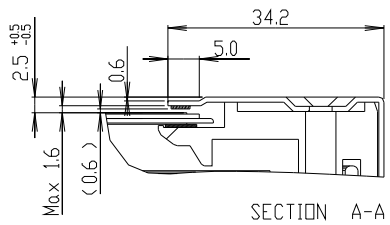
[ FRONT VIEW ]



- NOTES
1. Unspecified tolerances are to be ±0.0mm.
  2. The length of mounting screw is MAX 4.0mm.
  3. Tilt and parallel disposition tolerance of display area are as following.
    - (1) X-Direction : |A-B| ≤ 1.5mm
    - (2) Y-Direction : |C-D| ≤ 1.5mm



4. Torque : 3.5 ~ 5.0kgf/cm
5. This part should be contains Eco-hazardous substances (Pb, Cd, Hg, Cr6+, PBB, PBDC, etc.) within standard level of LG display. Details should be followed Green Procurement standard(B-8022). Especially, Part should be followed and controlled the following specifications.
  - (1) Eco-hazardous substances test report should be submitted when Part certification test and First Mass Production.
  - (2) Don't flow Eco-hazardous substances into resin by using scrap.
  - (3) Don't flow Eco-hazardous substances into metal by using impurities or improper stuff.





## Product Specification

**6. Reliability****Table 13. ENVIRONMENT TEST CONDITION**

No.	Test Item	Condition
1	High temperature storage test	Ta= 60°C 240h
2	Low temperature storage test	Ta= -20°C 240h
3	High temperature operation test	Ta= 50°C 50%RH 240h
4	Low temperature operation test	Ta= 0°C 240h
5	Vibration test (non-operating)	Wave form : random Vibration level : 1.0Grms Bandwidth : 10-300Hz Duration : 10 min for X,Y,Z, axis One time each direction
6	Shock test (non-operating)	Shock level : 50Grms(X,Y axis), 35G(Z axis) Waveform : half sine wave, 11ms Direction : ±X, ±Y, ±Z One time each direction
7	Humidity condition Operation	Ta= 40 °C ,90%RH
8	Altitude operating storage / shipment	0 - 15,000 ft 0 - 40,000 ft

Note : Before and after Reliability test, LCM should be operated with normal function.

## 7. International Standards

### 7-1. Safety

- a) UL 60065, Seventh Edition, Underwriters Laboratories Inc.  
Audio, Video and Similar Electronic Apparatus - Safety Requirements.
- b) CAN/CSA C22.2 No.60065:03, Canadian Standards Association.  
Audio, Video and Similar Electronic Apparatus - Safety Requirements.
- c) EN 60065:2002 + A11:2008, European Committee for Electrotechnical Standardization (CENELEC).  
Audio, Video and Similar Electronic Apparatus - Safety Requirements.
- d) IEC 60065:2005 + A1:2005, The International Electrotechnical Commission (IEC).  
Audio, Video and Similar Electronic Apparatus - Safety Requirements.

### 7-2. EMC

- a) ANSI C63.4 "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz." American National Standards Institute (ANSI), 2003.
- b) CISPR 22 "Information technology equipment – Radio disturbance characteristics – Limit and methods of measurement." International Special Committee on Radio Interference (CISPR), 2005.
- c) CISPR 13 "Sound and television broadcast receivers and associated equipment – Radio disturbance characteristics – Limits and method of measurement." International Special Committee on Radio Interference (CISPR), 2006.

### 7-3. Environment

- a) RoHS, Directive 2002/95/EC of the European Parliament and of the council of 27 January 2003

## Product Specification

**8. Packing****8-1. Information of LCM Label**

a) Lot Mark

A	B	C	D	E	F	G	H	I	J	K	L	M
---	---	---	---	---	---	---	---	---	---	---	---	---

A,B,C : SIZE(INCH)  
E : MONTH

D : YEAR  
F ~ M : SERIAL NO.

Note

## 1. YEAR

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Mark	1	2	3	4	5	6	7	8	9	0

## 2. MONTH

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mark	1	2	4	4	5	6	7	8	9	A	B	C

b) Location of Lot Mark

Serial NO. is printed on the label. The label is attached to the backside of the LCD module.  
This is subject to change without prior notice.

**8-2. Packing Form**

a) Package quantity in one Pallet : 10 pcs

b) Pallet Size : 1440 mm X 1140 mm X 970 mm.

## 9. Precautions

Please pay attention to the followings when you use this TFT LCD module.

### 9-1. Mounting Precautions

- (1) You must mount a module using specified mounting holes (Details refer to the drawings).
- (2) You should consider the mounting structure so that uneven force (ex. Twisted stress) is not applied to the module. And the case on which a module is mounted should have sufficient strength so that external force is not transmitted directly to the module.
- (3) Please attach the surface transparent protective plate to the surface in order to protect the polarizer. Transparent protective plate should have sufficient strength in order to resist external force.
- (4) You should adopt radiation structure to satisfy the temperature specification.
- (5) Acetic acid type and chlorine type materials for the cover case are not desirable because the former generates corrosive gas of attacking the polarizer at high temperature and the latter causes circuit break by electro-chemical reaction.
- (6) Do not touch, push or rub the exposed polarizers with glass, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment. Do not touch the surface of polarizer for bare hand or greasy cloth.(Some cosmetics are detrimental to the polarizer.)
- (7) When the surface becomes dusty, please wipe gently with absorbent cotton or other soft materials like chamois soaks with petroleum benzine. Normal-hexane is recommended for cleaning the adhesives used to attach front / rear polarizers. Do not use acetone, toluene and alcohol because they cause chemical damage to the polarizer.
- (8) Wipe off saliva or water drops as soon as possible. Their long time contact with polarizer causes deformations and color fading.
- (9) Do not open the case because inside circuits do not have sufficient strength.

### 9-2. Operating Precautions

- (1) The spike noise causes the mis-operation of circuits. It should be lower than following voltage :  
 $V = \pm 200\text{mV}$  (Over and under shoot voltage)
- (2) Response time depends on the temperature. (In lower temperature, it becomes longer.)
- (3) Brightness depends on the temperature. (In lower temperature, it becomes lower.)  
 And in lower temperature, response time (required time that brightness is stable after turned on) becomes longer
- (4) Be careful for condensation at sudden temperature change. Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.
- (5) When fixed patterns are displayed for a long time, remnant image is likely to occur.
- (6) Module has high frequency circuits. Sufficient suppression to the electromagnetic interference shall be done by system manufacturers. Grounding and shielding methods may be important to minimize the interference.
- (7) Please do not give any mechanical and/or acoustical impact to LCM. Otherwise, LCM can't be operated its full characteristics perfectly.
- (8) A screw which is fastened up the steels should be a machine screw.  
 (if not, it can cause conductive particles and deal LCM a fatal blow)
- (9) Please do not set LCD on its edge.
- (10) The conductive material and signal cables are kept away from transformers to prevent abnormal display, sound noise and temperature rising.
- (11) Partial darkness may happen during 3~5 minutes when LCM is operated initially in condition that luminance is under 40% at low temperature (under 5°C). This phenomenon which disappears naturally after 3~5 minutes is not a problem about reliability but LCD characteristic.

- (12) Partial darkness may happen under the long-term operation of any dimming without power on/off. This phenomenon which disappears naturally after 5 minutes is not a problem about reliability but LCD characteristics.

### 9-3. Electrostatic Discharge Control

Since a module is composed of electronic circuits, it is not strong to electrostatic discharge. Make certain that treatment persons are connected to ground through wrist band etc. And don't touch interface pin directly.

### 9-4. Precautions for Strong Light Exposure

Strong light exposure causes degradation of polarizer and color filter.

### 9-5. Storage

When storing modules as spares for a long time, the following precautions are necessary.

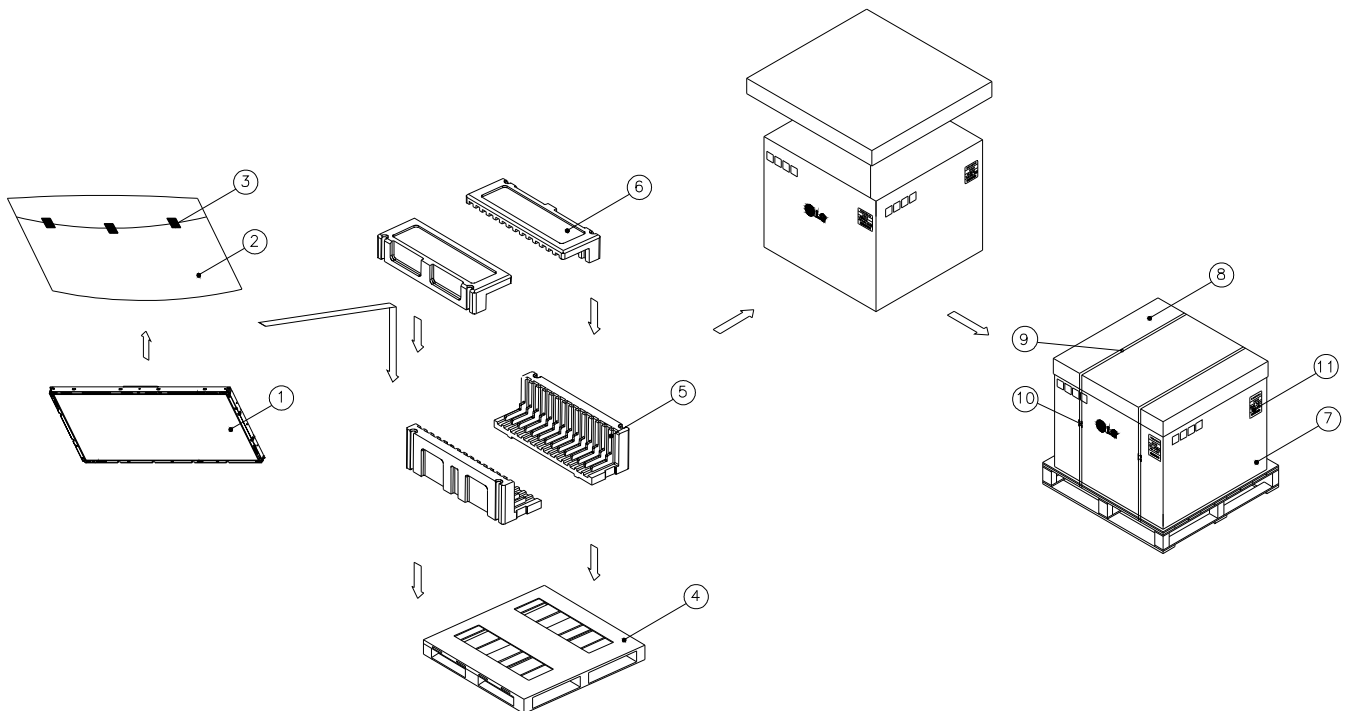
- (1) Store them in a dark place. Do not expose the module to sunlight or fluorescent light. Keep the temperature between 5°C and 35°C at normal humidity.
- (2) The polarizer surface should not come in contact with any other object.  
It is recommended that they be stored in the container in which they were shipped.

### 9-6. Handling Precautions for Protection Film

- (1) The protection film is attached to the bezel with a small masking tape.  
When the protection film is peeled off, static electricity is generated between the film and polarizer. This should be peeled off slowly and carefully by people who are electrically grounded and with well ion-blown equipment or in such a condition, etc.
- (2) When the module with protection film attached is stored for a long time, sometimes there remains a very small amount of glue still on the bezel after the protection film is peeled off.
- (3) You can remove the glue easily. When the glue remains on the bezel surface or its vestige is recognized, please wipe them off with absorbent cotton waste or other soft material like chamois soaked with normal-hexane.

## # APPENDIX-I

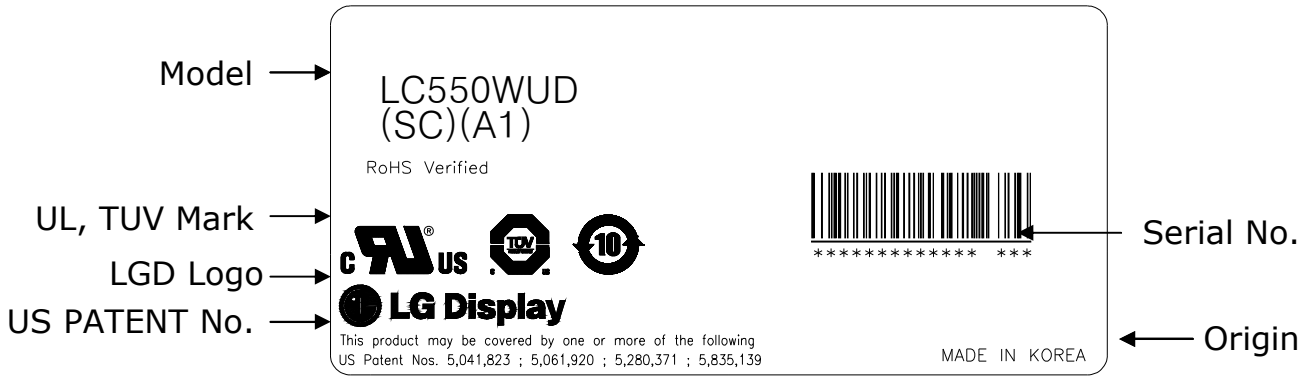
## ■ LC550WUD-SCA1 – Pallet Ass'y



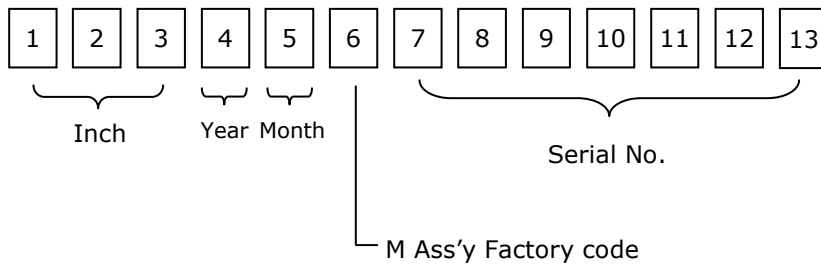
NO.	DESCRIPTION	MATERIAL
1	LCD Module	
2	BAG	55INCH
3	TAPE	MASKING 20MMX50M
4	PALLET	PLYWOOD
5	PACKING,BOTTOM	EPS
6	PACKING, TOP	EPS
7	ANGLE,PACKING	PAPER
8	ANGLE,COVER	PAPER
9	BAND	PP
10	BAND,CLIP	STEEL
11	LABEL	YUPO 80G 100X70

# APPENDIX- II-1

■ LC550WUD-SCA1-LCM Label

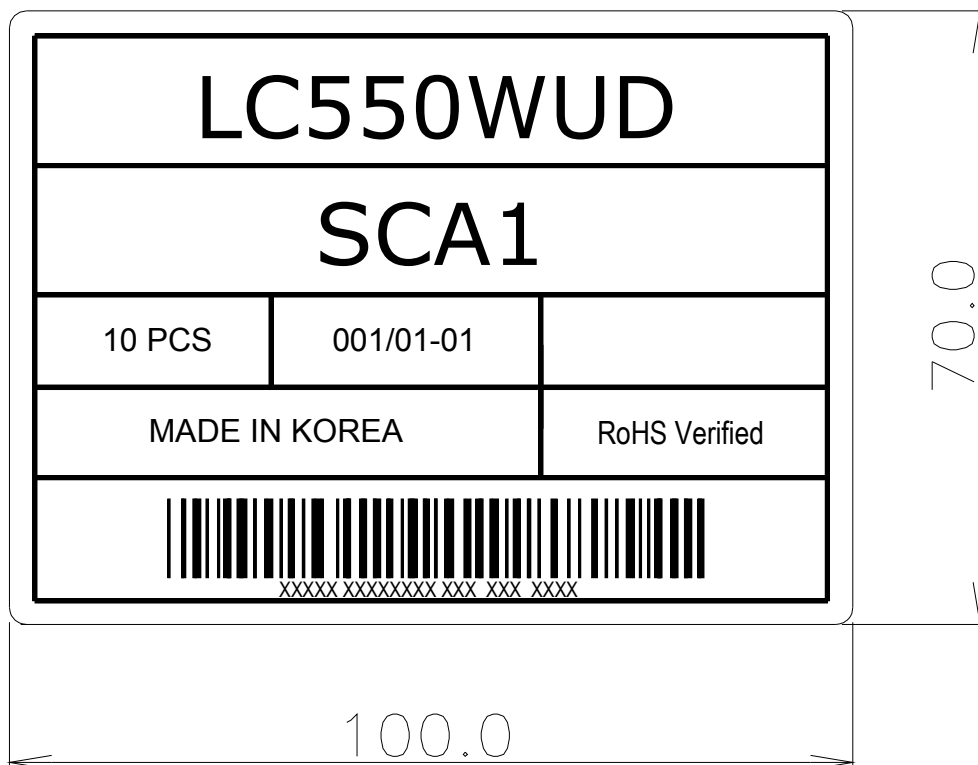


■ Serial No. (See CAS 27page for more information)



# APPENDIX- II-2

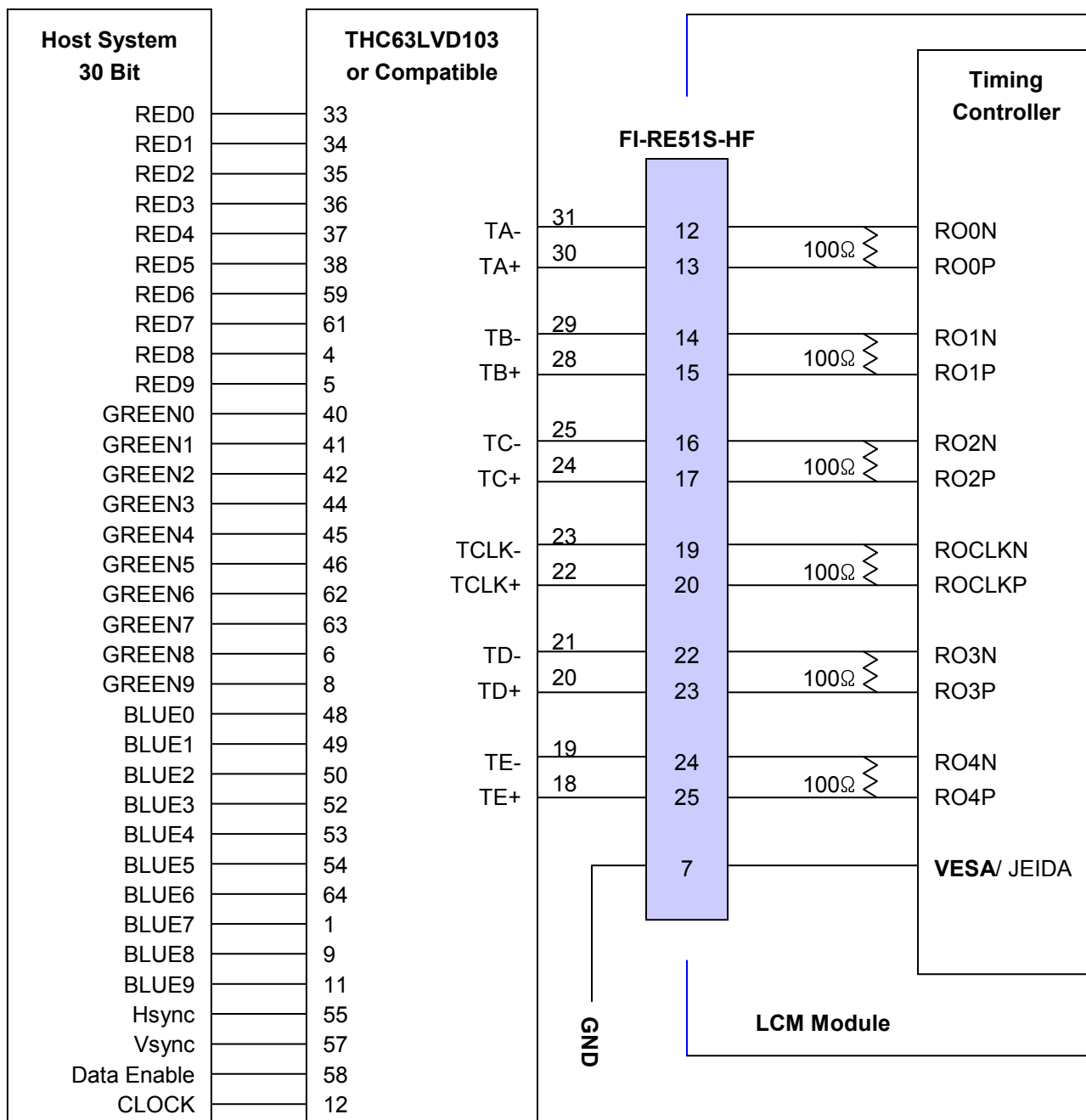
■ LC550WUD-SCA1-Pallet Label



Product Specification

# APPENDIX- III-1

■ Required signal assignment for Flat Link (Thine : THC63LVD103) Transmitter(Pin7="L")

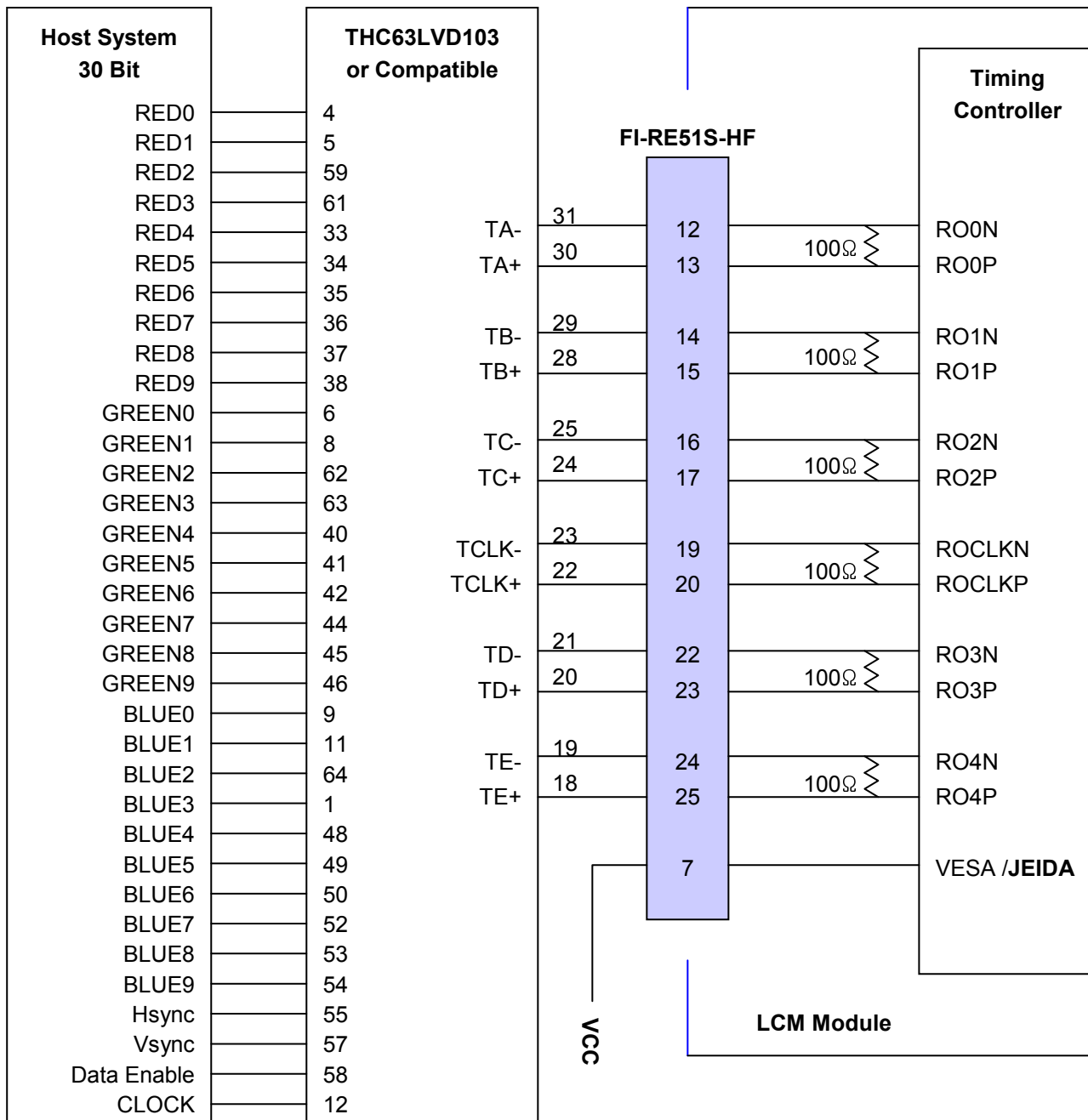


- Note: 1. The LCD module uses a 100 Ohm[Ω] resistor between positive and negative lines of each receiver input.  
 2. Refer to LVDS Transmitter Data Sheet for detail descriptions. (THC63LVD103 or Compatible)  
 3. '9' means MSB and '0' means LSB at R,G,B pixel data.

Product Specification

# APPENDIX- III-1

■ Required signal assignment for Flat Link (Thine : THC63LVD103) Transmitter(Pin7="H")



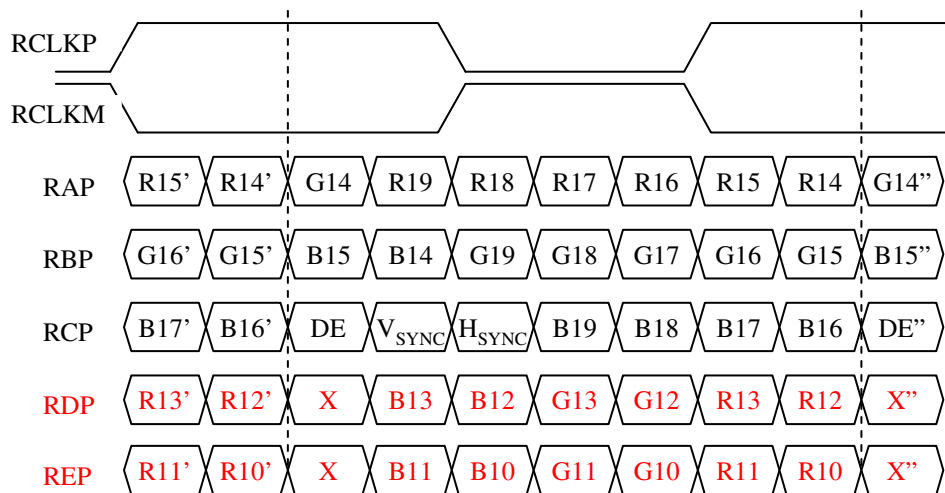
- Note :1. The LCD module uses a 100 Ohm[Ω] resistor between positive and negative lines of each receiver input.  
 2. Refer to LVDS Transmitter Data Sheet for detail descriptions. (THC63LVD103 or Compatible)  
 3. '9' means MSB and '0' means LSB at R,G,B pixel data.

Product Specification

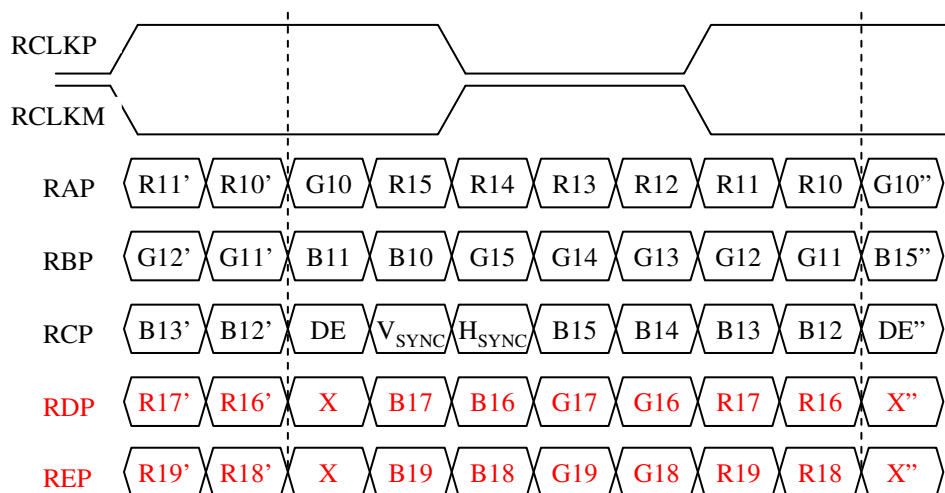
# APPENDIX- III-2

■ LVDS Data-Mapping Information (10 Bit )

1) LVDS Select : "H" Data-Mapping (JEIDA format)



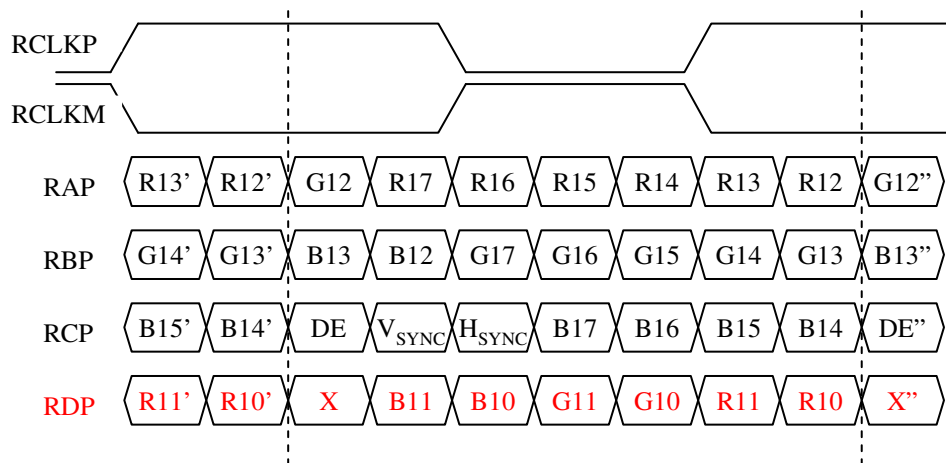
2) LVDS Select : "L" Data-Mapping (VESA format)



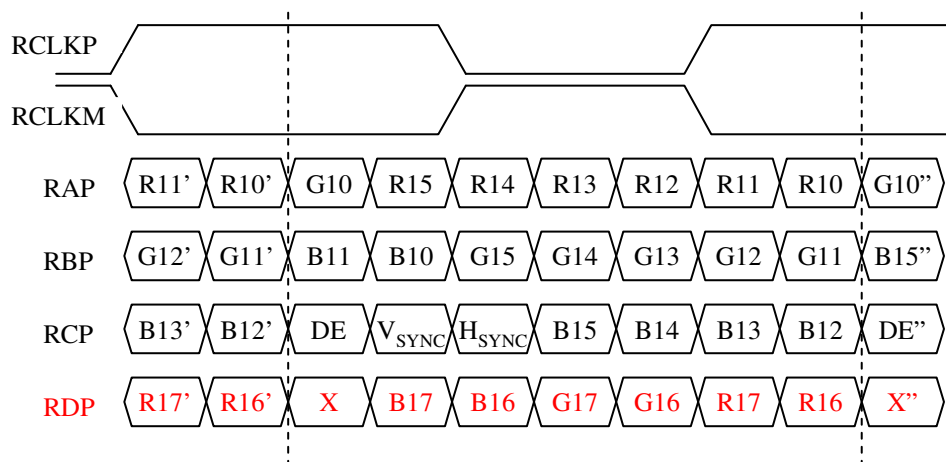
# APPENDIX- III-2

■ LVDS Data-Mapping Information (8 Bit )

1) LVDS Select : "H" Data-Mapping (JEIDA format)



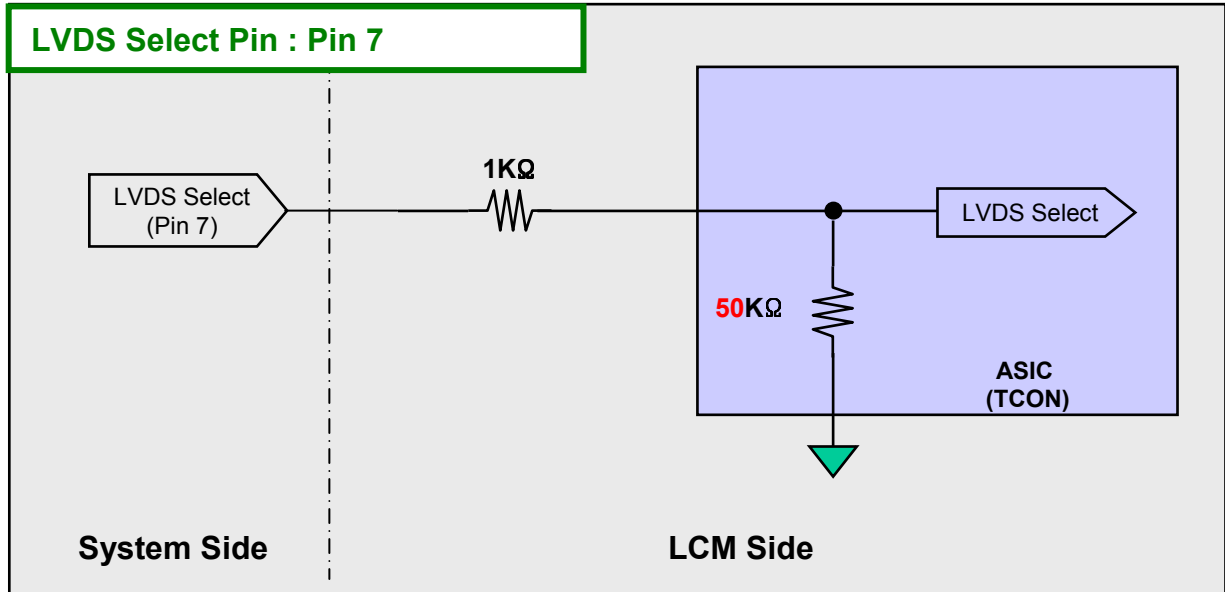
2) LVDS Select : "L" Data-Mapping (VESA format)



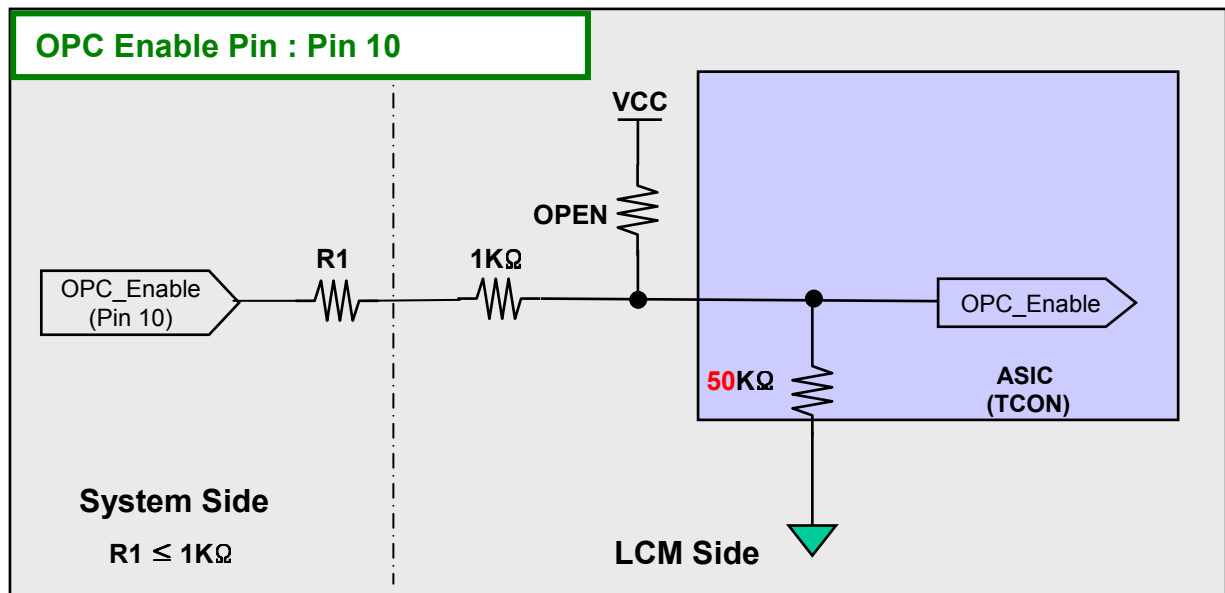
# APPENDIX- III-3

■ Option Pin Circuit Block Diagram

1) Circuit Block Diagram of **LVDS Format** Selection pin



2) Circuit Block Diagram of **OPC Enable** Selection pin

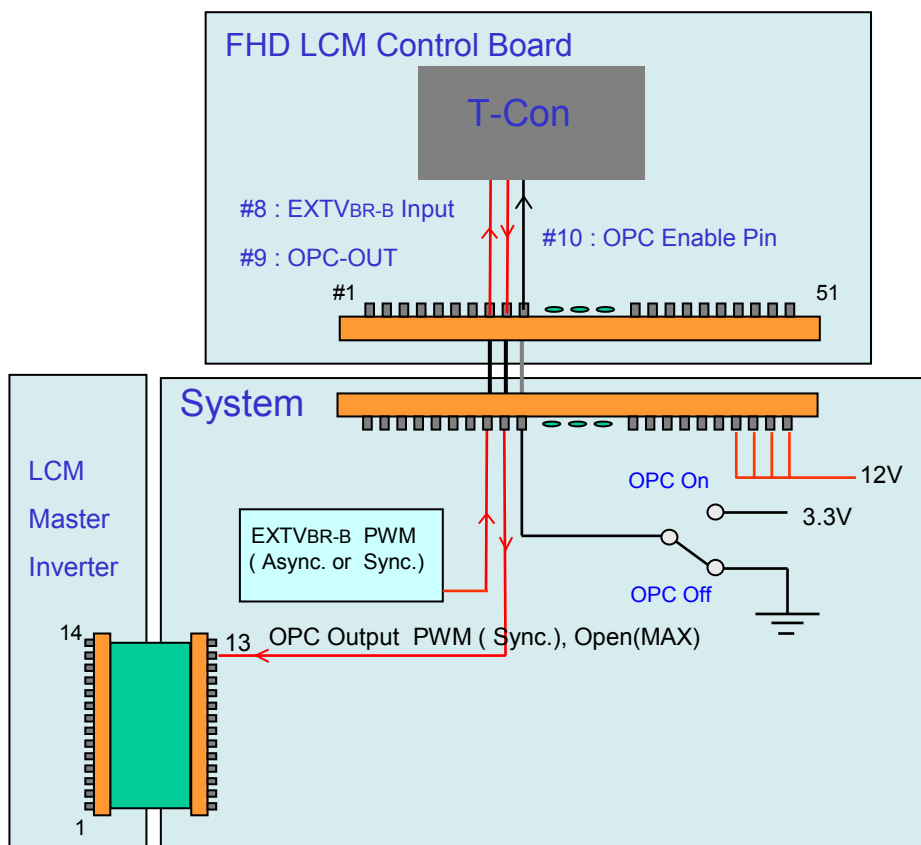


Product Specification

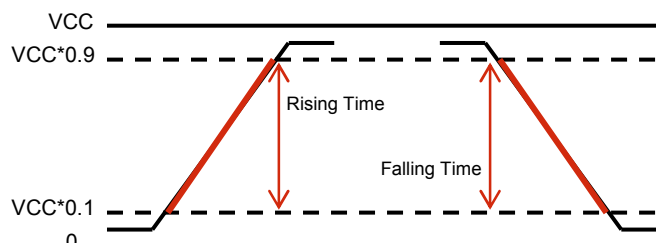
# APPENDIX- III-4

■ EXTVBR-B & OPC Design Guide

- 1) When OPC Enable is "L", OPC Output = System Dimming.
- 2) OPC Output( PWM Signal) is synchronized with V-Sync Freq. of System in T-Con Board.
- 3) Regardless of OPC, System should always give dimming Signal (EXTVBR-B) to T-con.
- 4) PWM Specification ( VCC = 3.3V ) @ OPC
  - a) PWM High Voltage Range : 2.5 V ~ 3.6 V
  - b) PWM Low Voltage Range : 0.0 V ~ 0.8 V



Input Frequency	MAX 1Khz (Recommendation: 50~300Hz)
Rising Time	MAX 10.0 μs
Falling Time	MAX 10.0 μs



Product Specification

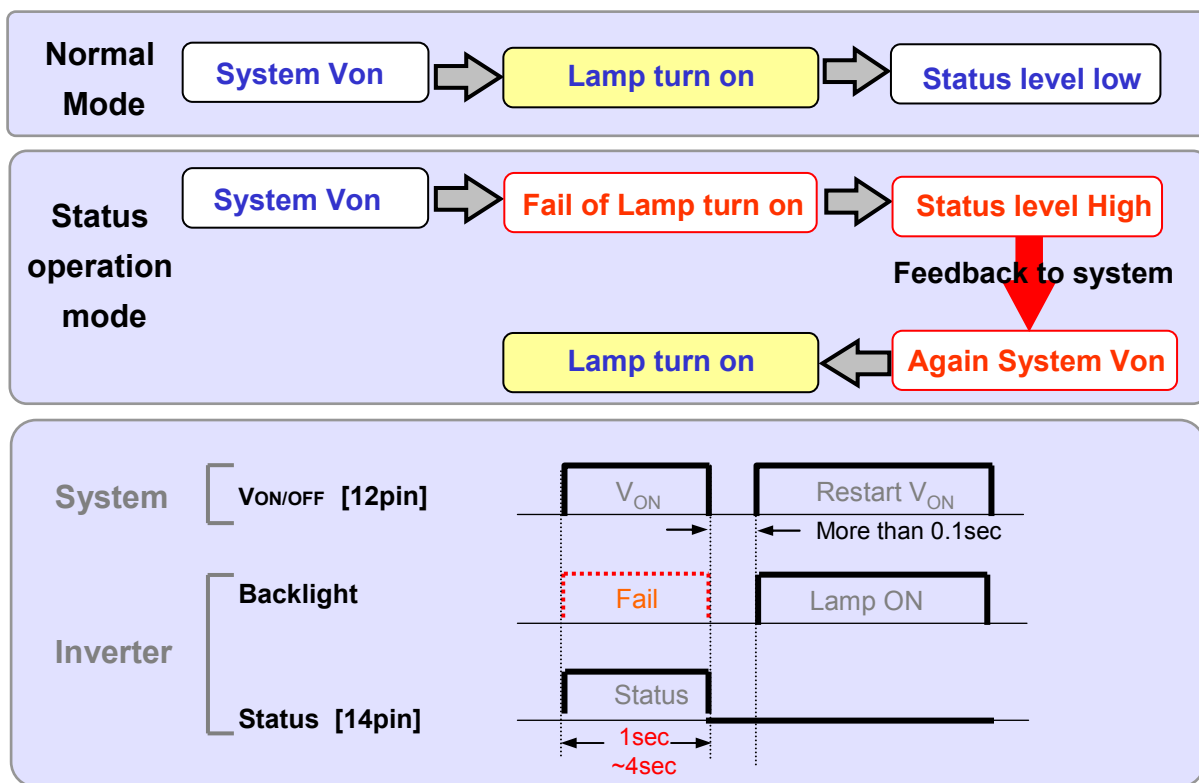
# APPENDIX- IV-1

■ Inverter 14<sup>th</sup> Pin (**Status**) Design Guide

1) Function of Status pin

- Purpose : Preventing of backlight off by restarting the inverter technically
- How to : When inverter is abnormal operation, TV system inputs the Von signal in the inverter once more to turn on the lamp safely
- Attention : Restart system's Von signal when status pin is high for some time (min:1sec , max:4sec).  
(The turn on time of lamp can be late such as the low temperature or the storage time)

2) Status operation modes in TV set



3) Inverter pin map

Pin No	Symbol	Description	Inv.
11	NC	No Connection	NC
12	VON/OFF	Backlight ON/OFF control	On/Off
13	EXTVBR-B	Burst Dimming Control PWM signal input	External PWM
14	Status	Normal : Under 0.7V / Abnormal : Upper 3.0V	status

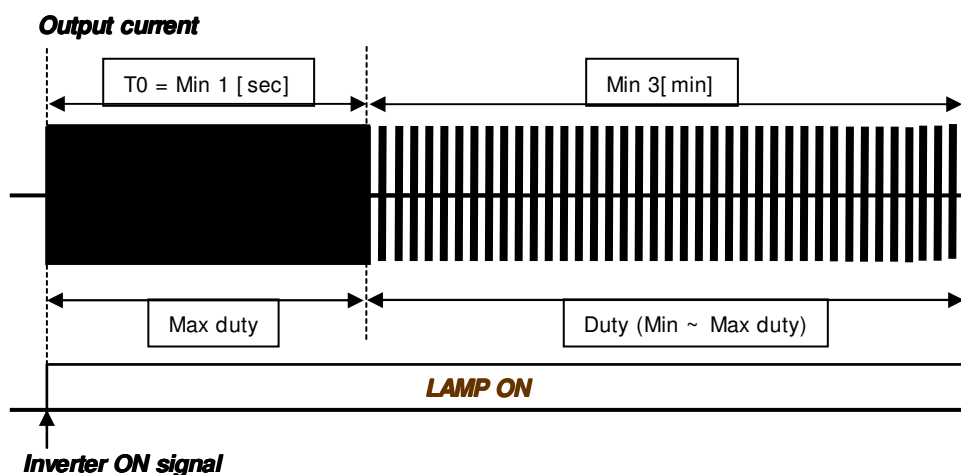
## # APPENDIX- IV-2

## ■ Mega DCR Using Condition (1)

- The Deep Dimming means using the input PWM duty less than Min duty.  
The input PWM duty (Min & Max duty) refer to the table 3 on the page 7.

The Deep Dimming must be used very carefully due to limitation of lamp characteristics and specification.

- 1) For stable lamp on, its duty condition should follow below the condition.  
After Inverter ON signal, T0 duration should be sustained.

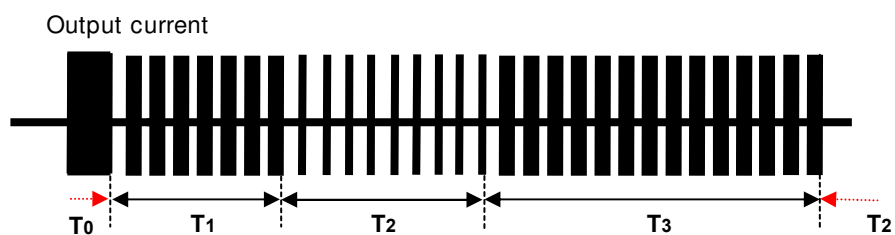


- 2) B/L may not satisfy some of LCM specification at the Deep Dimming.

- Duration : The Deep Dimming must be limited within 10 minutes.
- Ratio : The operation time of the Deep Dimming must be less than 1/5 time of the Normal Duty (Min ~ Max duty) operation in a certain period to prevent unwanted operation.
- FOS : Partial darkness or darkness of center area during the Deep Dimming might be happened due to insufficient lamp current.
- Warm up : The Normal Duty (Min ~ Max duty) must be used 3 min after the lamps "ON". In case of low temperature, more warm up time may be needed.

## # APPENDIX- IV-2

## ■ Mega DCR Using Condition (2)



Parameter	Value			Unit	Condition
	Min	Typ	Max		
T1	3	-	-	min	Min ~ Max duty
T2	-	-	10	min	0 ~ Min duty
T3	T2 x 5	-	-	min	Min ~ Max duty

- 3) Following the recommended conditions as aforementioned, there is no difference of lamp lifetime between conventional method and new one.

Product Specification

# APPENDIX- V-1

■ Gray to Gray Response Time Uniformity ( $\delta_{G \text{ to } G}$ )

This is only the reference data of G to G and uniformity for LC550WUD-SCA1 model.

1. G to G Response Time :

Response time is defined as Figure3 and shall be measured by switching the input signal for “Gray (N) ” and “Gray(M)”.(32Gray Step at 8bit)

2. G to G Uniformity

The variation of G to G Uniformity ,  $\delta_{G \text{ to } G}$  is defined as :

$$\text{G to G Uniformity} = \frac{\text{Maximum}(G \text{ to } G) - \text{Typical}(G \text{ to } G)}{\text{Typical}(G \text{ to } G)} \leq 1$$

\*Maximum (GtoG) means maximum value of measured time (N, M = 0 (Black) ~ 255(White), 32 gray step).

	0Gray	32Gray	64Gray	...	223Gray	255Gray
0Gray		TrR:0G→32G	TrR:0G→64G	...	TrR:0G→223G	TrR:0G→255G
32Gray	TrD:32G→0G		TrR:32G→64G	...	TrR:32G→223G	TrR:32G→255G
64Gray	TrD:64G→0G	TrD:64G→32G		...	TrR:64G→223G	TrR:64G→255G
...	...	...	...	...	...	...
223Gray	TrD:223G→0G	TrD:223G→32G	TrD:223G→64G	...		TrR:223G→255G
255Gray	TrD:255G→0G	TrD:255G→32G	TrD:255G→64G	...	TrD:255G→223G	

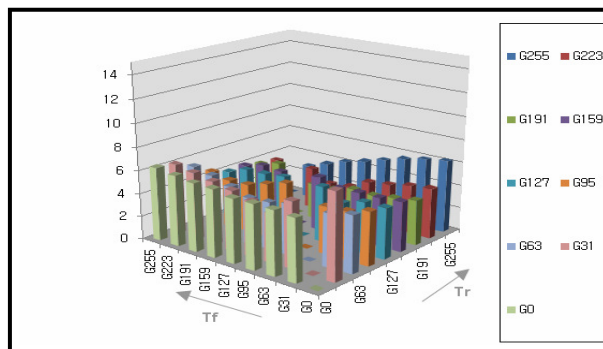
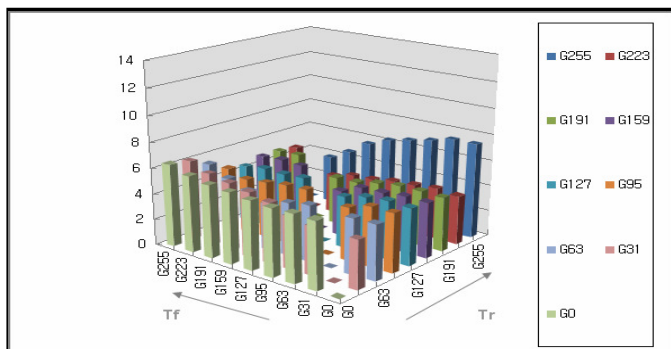
3. Sampling Size : 2 pcs

4. Measurement Method : Follow the same rule as optical characteristics measurement.

5. Current Status

Below table is actual data of production on 11. 18. 2009 ( LGD RV Event Sample)

Sample	G to G Response Time [ms]		Uniformity
	Min.	Max.	
# 1	3.08	7.42	0.484
# 2	2.68	7.44	0.488



Product Specification

# APPENDIX- V-2

■ MPRT Response Time Uniformity ( $\delta_{MPRT}$ )

This is only the reference data of MPRT and uniformity for LC550WUD-SCA1 model.

1. MPRT Response Time :  
Response time is defined as Figure3

2. MPRT Uniformity  
The variation of MPRT Uniformity ,  $\delta_{MPRT}$  is defined as :

$$MPRT \text{ Uniformity} = \frac{\text{Maximum (MPRT)} - \text{Typical (MPRT)}}{\text{Typical (MPRT)}} \leq 1$$

3. Sampling Size : 2 pcs

4. Measurement Method : Follow the same rule as optical characteristics measurement.

5. Current Status

Below table is actual data of production on 11. 18. 2009 ( LGD RV Event Sample)

Sample	MPRT Response Time [ms]		Uniformity
	Min.	Max.	
# 1	6.38	10.56	0.32
# 2	6.45	10.47	0.31

