



FOR MESSRS : \_\_\_\_\_

DATE : Aug. 21<sup>st</sup>, 2024

## CUSTOMER'S ACCEPTANCE SPECIFICATIONS

### TX26D202VM0BAA

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ACCEPTED BY: \_\_\_\_\_

PROPOSED BY: Oblack Tsai

|                                  |           |                               |      |       |
|----------------------------------|-----------|-------------------------------|------|-------|
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## 2. RECORD OF REVISION

| DATE                                            | SHEET No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------|-------------------|------------------------------------|---------------|---------------------------|-----------------|----|-----|---------------|-----------|--------|------|------|--------------|---------------------------|-----------------|-----|-----|------|-----------|------|------|------|---------------|---------------------------|----|----|----|---------------|-----------|---|-----|-----|--------------|---------------------------|---|-----|---|
| Jun.30,'15                                      | 7B64PS 2703 –<br>TX26D202VM0BAA-2<br>Page 3-1/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.1 DISPLAY FEATURES<br>Revised :<br><table><tr><td>Power Consumption</td><td>1.27W for LCD; 5.76W for Backlight</td></tr></table> <div>↓</div> <table><tr><td>Power Consumption</td><td>2.21W for LCD; 5.76W for Backlight</td></tr></table>                                                                                                                                                                                                                  | Power Consumption | 1.27W for LCD; 5.76W for Backlight | Power Consumption | 2.21W for LCD; 5.76W for Backlight |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|                                                 | Power Consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.27W for LCD; 5.76W for Backlight                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|                                                 | Power Consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.21W for LCD; 5.76W for Backlight                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|                                                 | 7B64PS 2705 –<br>TX26D202VM0BAA-2<br>Page 5-1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5.1 LCD CHARACTERISTICS<br>Revised :<br><table><tr><td>Item</td><td>Symbol</td><td>Min.</td><td>Typ.</td><td>Max.</td></tr><tr><td>Power Supply Current</td><td>I<sub>DD</sub></td><td>-</td><td>385</td><td>800</td></tr></table> <div>↓</div> <table><tr><td>Item</td><td>Symbol</td><td>Min.</td><td>Typ.</td><td>Max.</td></tr><tr><td>Power Supply Current</td><td>I<sub>DD</sub></td><td>-</td><td>670</td><td>800</td></tr></table><br>Revised : Note 4 | Item              | Symbol                             | Min.              | Typ.                               | Max.          | Power Supply Current      | I <sub>DD</sub> | -  | 385 | 800           | Item      | Symbol | Min. | Typ. | Max.         | Power Supply Current      | I <sub>DD</sub> | -   | 670 | 800  |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|                                                 | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Min.              | Typ.                               | Max.              |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Power Supply Current                            | I <sub>DD</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 385               | 800                                |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Item                                            | Symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Min.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Typ.              | Max.                               |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Power Supply Current                            | I <sub>DD</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 670               | 800                                |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| 7B64PS 2707 –<br>TX26D202VM0BAA-2<br>Page 7-1/1 | 7. BLOCK DIAGRAM<br>Added : Gamma Voltage Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| 7B64PS 2709 –<br>TX26D202VM0BAA-2<br>Page 9-1/7 | 9.1 INTERFACE PIN CONNECTIONS<br>Revised :<br>connector CN1 is 300E50-0010RA-G3 made by STARCONN<br><div>↓</div> connector CN1 is 51296-5094 made by MOLEX<br><br>Note 2: Normal brightness: 0% PWM duty<br><div>↓</div> Note 2: Normal brightness: 100% PWM duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| 7B64PS 2709 –<br>TX26D202VM0BAA-2<br>Page 9-3/7 | 9.4 TIMING CHART<br>Revised : Data bits [0:5] → [0:7]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Oct.28,'15                                      | 7B64PS 2703 –<br>TX26D202VM0BAA-3<br>Page 3-1/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.1 DISPLAY FEATURES<br>Revised :<br><table><tr><td>Power Consumption</td><td>2.21W for LCD; 5.76W for Backlight</td></tr></table> <div>↓</div> <table><tr><td>Power Consumption</td><td>2.21W for LCD; 7.68W for Backlight</td></tr></table>                                                                                                                                                                                                                  | Power Consumption | 2.21W for LCD; 5.76W for Backlight | Power Consumption | 2.21W for LCD; 7.68W for Backlight |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
|                                                 | Power Consumption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.21W for LCD; 5.76W for Backlight                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Power Consumption                               | 2.21W for LCD; 7.68W for Backlight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |                                    |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| 7B64PS 2705 –<br>TX26D202VM0BAA-3<br>Page 5-2/2 | 5.1 LCD CHARACTERISTICS<br>Revised :<br><table><tr><td>Item</td><td>Condition</td><td>Min.</td><td>Typ.</td><td>Max.</td></tr><tr><td>Input Voltage</td><td>I<sub>LED</sub>= 480 mA</td><td>11</td><td>12</td><td>13</td></tr><tr><td>Input current</td><td>100% duty</td><td>-</td><td>480</td><td>-</td></tr><tr><td>LED lifetime</td><td>I<sub>LED</sub>= 480 mA</td><td>-</td><td>40K</td><td>-</td></tr></table> <div>↓</div> <table><tr><td>Item</td><td>Condition</td><td>Min.</td><td>Typ.</td><td>Max.</td></tr><tr><td>Input Voltage</td><td>I<sub>LED</sub>= 640 mA</td><td>11</td><td>12</td><td>13</td></tr><tr><td>Input current</td><td>100% duty</td><td>-</td><td>640</td><td>760</td></tr><tr><td>LED lifetime</td><td>I<sub>LED</sub>= 640 mA</td><td>-</td><td>40K</td><td>-</td></tr></table><br>Note1、3 : 480mA → 640mA | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Condition         | Min.                               | Typ.              | Max.                               | Input Voltage | I <sub>LED</sub> = 480 mA | 11              | 12 | 13  | Input current | 100% duty | -      | 480  | -    | LED lifetime | I <sub>LED</sub> = 480 mA | -               | 40K | -   | Item | Condition | Min. | Typ. | Max. | Input Voltage | I <sub>LED</sub> = 640 mA | 11 | 12 | 13 | Input current | 100% duty | - | 640 | 760 | LED lifetime | I <sub>LED</sub> = 640 mA | - | 40K | - |
| Item                                            | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Min.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Typ.              | Max.                               |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Input Voltage                                   | I <sub>LED</sub> = 480 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12                | 13                                 |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Input current                                   | 100% duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 480               | -                                  |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| LED lifetime                                    | I <sub>LED</sub> = 480 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40K               | -                                  |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Item                                            | Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Min.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Typ.              | Max.                               |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Input Voltage                                   | I <sub>LED</sub> = 640 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12                | 13                                 |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| Input current                                   | 100% duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 640               | 760                                |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |
| LED lifetime                                    | I <sub>LED</sub> = 640 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 40K               | -                                  |                   |                                    |               |                           |                 |    |     |               |           |        |      |      |              |                           |                 |     |     |      |           |      |      |      |               |                           |    |    |    |               |           |   |     |     |              |                           |   |     |   |

## 2. RECORD OF REVISION

| DATE                                                                                                                                                                                                                                                                                             | SHEET No.                                                            | SUMMARY                                                                                                                                                                                                                                                                             |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------|-----------------------|----------------|
| Oct.28,'15                                                                                                                                                                                                                                                                                       | 7B64PS 2706 –<br>TX26D202VM0BAA-3<br>Page 6-1/2                      | 6. OPTICAL CHARACTERISTICS<br>Revised :                                                                                                                                                                                                                                             |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      | <table><tr><th>Item</th><th>Condition</th></tr><tr><td>Brightness of White</td><td rowspan="3"><math>\phi = 0^{\circ}, \theta = 0^{\circ},</math><br/><math>I_{LED}= 480 \text{ mA}</math></td></tr><tr><td>Brightness Uniformity</td></tr><tr><td>Contrast Ratio</td></tr></table> | Item                                                                 | Condition                                                            | Brightness of White                               | $\phi = 0^{\circ}, \theta = 0^{\circ},$<br>$I_{LED}= 480 \text{ mA}$ | Brightness Uniformity | Contrast Ratio |
|                                                                                                                                                                                                                                                                                                  |                                                                      | Item                                                                                                                                                                                                                                                                                | Condition                                                            |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      | Brightness of White                                                                                                                                                                                                                                                                 | $\phi = 0^{\circ}, \theta = 0^{\circ},$<br>$I_{LED}= 480 \text{ mA}$ |                                                                      |                                                   |                                                                      |                       |                |
| Brightness Uniformity                                                                                                                                                                                                                                                                            |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| Contrast Ratio                                                                                                                                                                                                                                                                                   |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
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| Item                                                                                                                                                                                                                                                                                             | Condition                                                            |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| Brightness of White                                                                                                                                                                                                                                                                              | $\phi = 0^{\circ}, \theta = 0^{\circ},$<br>$I_{LED}= 640 \text{ mA}$ |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| Brightness Uniformity                                                                                                                                                                                                                                                                            |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| Contrast Ratio                                                                                                                                                                                                                                                                                   |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| 7B64PS 2709 –<br>TX26D202VM0BAA-3<br>Page 9-6/7                                                                                                                                                                                                                                                  | 9.7 POWER SEQUENCE<br>Revised : Note 3                               |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| 7B64PS 2711 –<br>TX26D202VM0BAA-3<br>Page 11-2/3                                                                                                                                                                                                                                                 | 11.2 LCD APPEARANCE SPECIFICATION<br>Revised :                       |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      | <table><tr><th>Item</th><th>Condition</th></tr><tr><td>1) Stains<br/>2) Foreign Materials<br/>3) Dark Spot</td><td rowspan="3"><math>0.2 \leq D \leq 0.6</math></td></tr><tr><td></td></tr><tr><td></td></tr></table>                                                               | Item                                                                 | Condition                                                            | 1) Stains<br>2) Foreign Materials<br>3) Dark Spot | $0.2 \leq D \leq 0.6$                                                |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      | Item                                                                                                                                                                                                                                                                                | Condition                                                            |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      | 1) Stains<br>2) Foreign Materials<br>3) Dark Spot                                                                                                                                                                                                                                   | $0.2 \leq D \leq 0.6$                                                |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
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| Item                                                                                                                                                                                                                                                                                             | Condition                                                            |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| 1) Stains<br>2) Foreign Materials<br>3) Dark Spot                                                                                                                                                                                                                                                | $0.2 < D \leq 0.6$                                                   |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
|                                                                                                                                                                                                                                                                                                  |                                                                      |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |
| 7B64PS 2711 –<br>TX26D202VM0BAA-3<br>Page 11-3/3                                                                                                                                                                                                                                                 | 11.2 LCD APPEARANCE SPECIFICATION<br>Added : Note 2                  |                                                                                                                                                                                                                                                                                     |                                                                      |                                                                      |                                                   |                                                                      |                       |                |

## 2. RECORD OF REVISION

| DATE                                             | SHEET No.                                                                                                                                                                                                                 | SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|------|-------------------------------|---------|----------------------------|---------|---|------|------|------|---|------|------|------|-------|---|------|------|------|---|------|------|------|------|---|------|------|------|---|------|------|------|-------|---|------|------|------|---|------|------|------|------|--|--------|------|------|------|--------------------|-----|---|------|------|------|---|------|------|------|-------|---|------|------|------|---|------|------|------|------|---|------|------|------|---|------|------|------|-------|---|------|------|------|---|------|------|------|
| Apr.28,'17                                       | 7B64PS 2706 –<br>TX26D202VM0BAA-4<br>Page 6-1/2                                                                                                                                                                           | 6. OPTICAL CHARACTERISTICS<br>Revised : <table><tr><th colspan="2">Item</th><th>Symbol</th><th>Min.</th><th>Typ.</th><th>Max.</th></tr><tr><td rowspan="8">Color Chromaticity</td><td rowspan="2">Red</td><td>X</td><td>0.58</td><td>0.63</td><td>0.68</td></tr><tr><td>Y</td><td>0.27</td><td>0.32</td><td>0.37</td></tr><tr><td rowspan="2">Green</td><td>X</td><td>0.30</td><td>0.35</td><td>0.40</td></tr><tr><td>Y</td><td>0.52</td><td>0.57</td><td>0.62</td></tr><tr><td rowspan="2">Blue</td><td>X</td><td>0.10</td><td>0.15</td><td>0.20</td></tr><tr><td>Y</td><td>0.08</td><td>0.13</td><td>0.18</td></tr><tr><td rowspan="2">White</td><td>X</td><td>0.26</td><td>0.31</td><td>0.36</td></tr><tr><td>Y</td><td>0.30</td><td>0.35</td><td>0.40</td></tr></table> <div>↓</div> <table><tr><th colspan="2">Item</th><th>Symbol</th><th>Min.</th><th>Typ.</th><th>Max.</th></tr><tr><td rowspan="8">Color Chromaticity</td><td rowspan="2">Red</td><td>X</td><td>0.52</td><td>0.57</td><td>0.62</td></tr><tr><td>Y</td><td>0.27</td><td>0.32</td><td>0.37</td></tr><tr><td rowspan="2">Green</td><td>X</td><td>0.28</td><td>0.33</td><td>0.38</td></tr><tr><td>Y</td><td>0.56</td><td>0.61</td><td>0.66</td></tr><tr><td rowspan="2">Blue</td><td>X</td><td>0.10</td><td>0.15</td><td>0.20</td></tr><tr><td>Y</td><td>0.04</td><td>0.09</td><td>0.14</td></tr><tr><td rowspan="2">White</td><td>X</td><td>0.25</td><td>0.30</td><td>0.35</td></tr><tr><td>Y</td><td>0.26</td><td>0.31</td><td>0.36</td></tr></table> | Item    |         | Symbol  | Min. | Typ.                          | Max.    | Color Chromaticity         | Red     | X | 0.58 | 0.63 | 0.68 | Y | 0.27 | 0.32 | 0.37 | Green | X | 0.30 | 0.35 | 0.40 | Y | 0.52 | 0.57 | 0.62 | Blue | X | 0.10 | 0.15 | 0.20 | Y | 0.08 | 0.13 | 0.18 | White | X | 0.26 | 0.31 | 0.36 | Y | 0.30 | 0.35 | 0.40 | Item |  | Symbol | Min. | Typ. | Max. | Color Chromaticity | Red | X | 0.52 | 0.57 | 0.62 | Y | 0.27 | 0.32 | 0.37 | Green | X | 0.28 | 0.33 | 0.38 | Y | 0.56 | 0.61 | 0.66 | Blue | X | 0.10 | 0.15 | 0.20 | Y | 0.04 | 0.09 | 0.14 | White | X | 0.25 | 0.30 | 0.35 | Y | 0.26 | 0.31 | 0.36 |
|                                                  | Item                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Symbol  | Min.    | Typ.    | Max. |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Color Chromaticity                               | Red                                                                                                                                                                                                                       | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.58    | 0.63    | 0.68    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.27    | 0.32    | 0.37    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | Green                                                                                                                                                                                                                     | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.30    | 0.35    | 0.40    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.52    | 0.57    | 0.62    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | Blue                                                                                                                                                                                                                      | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.10    | 0.15    | 0.20    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.08    | 0.13    | 0.18    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | White                                                                                                                                                                                                                     | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.26    | 0.31    | 0.36    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.30    | 0.35    | 0.40    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Item                                             |                                                                                                                                                                                                                           | Symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Min.    | Typ.    | Max.    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Color Chromaticity                               | Red                                                                                                                                                                                                                       | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.52    | 0.57    | 0.62    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.27    | 0.32    | 0.37    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | Green                                                                                                                                                                                                                     | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.28    | 0.33    | 0.38    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.56    | 0.61    | 0.66    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | Blue                                                                                                                                                                                                                      | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.10    | 0.15    | 0.20    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.04    | 0.09    | 0.14    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | White                                                                                                                                                                                                                     | X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.25    | 0.30    | 0.35    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  |                                                                                                                                                                                                                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.26    | 0.31    | 0.36    |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| 7B64PS 2713 –<br>TX26D202VM0BAA-4<br>Page 13-1/1 | 13. DESIGNATION of LOT MARK<br>Added : <table><tr><th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr><tr><td>A</td><td>-</td><td>-</td></tr><tr><td>B</td><td>Color Filter Consolidation</td><td>PCN0978</td></tr></table> | REV No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ITEM    | REMARKS | A       | -    | -                             | B       | Color Filter Consolidation | PCN0978 |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| REV No.                                          | ITEM                                                                                                                                                                                                                      | REMARKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| A                                                | -                                                                                                                                                                                                                         | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| B                                                | Color Filter Consolidation                                                                                                                                                                                                | PCN0978                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Sep.18,'17                                       | 7B64PS 2711 –<br>TX26D202VM0BAA-5<br>Page 11-2/3~3/3                                                                                                                                                                      | 11.2 LCD APPEARANCE SPECIFICATION<br>Revised : Note 2<br>Added : Note 3 (Mura & Light Leakage)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Oct.25,'19                                       | 7B64PS 2713 –<br>TX26D202VM0BAA-6<br>Page 13-1/1                                                                                                                                                                          | 13. DESIGNATION of LOT MARK<br>Added : <table><tr><th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr><tr><td>C</td><td>Color Filter Supplier Changed</td><td>PCN0998</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | REV No. | ITEM    | REMARKS | C    | Color Filter Supplier Changed | PCN0998 |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| REV No.                                          | ITEM                                                                                                                                                                                                                      | REMARKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| C                                                | Color Filter Supplier Changed                                                                                                                                                                                             | PCN0998                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Apr.12,'22                                       | 7B64PS 2713 –<br>TX26D202VM0BAA-7<br>Page 13-1/1                                                                                                                                                                          | 13. DESIGNATION of LOT MARK<br>Added : <table><tr><th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr><tr><td>D</td><td>LED Driver IC Changed</td><td>PCN1042</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | REV No. | ITEM    | REMARKS | D    | LED Driver IC Changed         | PCN1042 |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| REV No.                                          | ITEM                                                                                                                                                                                                                      | REMARKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| D                                                | LED Driver IC Changed                                                                                                                                                                                                     | PCN1042                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
| Jan.3,'23                                        | 7B64PS 2701 –<br>TX26D202VM0BAA-8<br>Page 1-1/1                                                                                                                                                                           | Company logo changed : <div><div><div>KOE</div><div>JDI Group</div><div>Kaohsiung Opto-Electronics Inc.</div></div><div>→</div><div><div><div></div><div>JDI</div><div>Japan Display Inc.</div></div></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |
|                                                  | 7B64PS 2713 –<br>TX26D202VM0BAA-8<br>Page 13-1/1                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |         |         |      |                               |         |                            |         |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |  |        |      |      |      |                    |     |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |      |   |      |      |      |   |      |      |      |       |   |      |      |      |   |      |      |      |

## 2. RECORD OF REVISION

| DATE       | SHEET No.                                         | SUMMARY                                                                                                                                                                                 |         |      |         |   |                 |         |
|------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|---------|---|-----------------|---------|
| Mar.31,'23 | 7B64PS 2710 –<br>TX26D202VM0BAA-9<br>Page 10-1/1  | 10. OUTLINE DIMENSIONS<br>10.1 Front View<br>Revised : $4.69 \pm 0.3 \rightarrow 4.69 +0.5 / -0.3$                                                                                      |         |      |         |   |                 |         |
| Aug.21,'24 | 7B64PS 2713 –<br>TX26D202VM0BAA-10<br>Page 13-1/1 | 13. DESIGNATION of LOT MARK<br>Added : <table border="1"> <tr> <th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr> <tr> <td>D</td><td>Tcon IC Changed</td><td>PCN1102</td></tr> </table> | REV No. | ITEM | REMARKS | D | Tcon IC Changed | PCN1102 |
| REV No.    | ITEM                                              | REMARKS                                                                                                                                                                                 |         |      |         |   |                 |         |
| D          | Tcon IC Changed                                   | PCN1102                                                                                                                                                                                 |         |      |         |   |                 |         |
|            |                                                   |                                                                                                                                                                                         |         |      |         |   |                 |         |

### 3. GENERAL DATA

#### 3.1 DISPLAY FEATURES

This module is a 10.1" WUXGA of 16:10 format amorphous silicon TFT. The pixel format is vertical stripe and sub pixels are arranged as R (red), G (green), B (blue) sequentially. This display is RoHS compliant, COG (chip on glass) technology and LED backlight are applied on this display.

|                         |                                                   |
|-------------------------|---------------------------------------------------|
| Part Name               | TX26D202VM0BAA                                    |
| Module Dimensions       | 232.1(W) x 153.2(H) x 4.7(D) mm.(Expect PCB Area) |
| LCD Active Area         | 217.44(W) mm x 135.9(H) mm                        |
| Pixel Pitch             | 0.11325(W) mm x 0.11325 (H) mm                    |
| Resolution              | 1920 x 3(RGB)(W) x 1200(H) Dots                   |
| Color Pixel Arrangement | R, G, B Vertical Stripe                           |
| LCD Type                | Transmissive Color TFT; Normally Black            |
| Display Type            | Active Matrix                                     |
| Number of Colors        | 16.7M Colors (8-bit RGB)                          |
| Backlight               | Light Emitting Diode (LED)                        |
| Weight                  | 284 g                                             |
| Interface               | 2ch-LVDS; 50 pins                                 |
| Power Supply Voltage    | 3.3V for LCD; 12V for Backlight                   |
| Power Consumption       | 2.21W for LCD; 7.68W for Backlight                |
| Viewing Direction       | Super Wide Version (In-Plane Switching)           |

## 4. ABSOLUTE MAXIMUM RATINGS

| Item                    | Symbol           | Min. | Max.                 | Unit | Remarks |
|-------------------------|------------------|------|----------------------|------|---------|
| Supply Voltage          | V <sub>DD</sub>  | -0.3 | 5                    | V    | -       |
| Input Voltage of Logic  | V <sub>I</sub>   | -0.3 | V <sub>DD</sub> +0.3 | V    | Note 1  |
| Operating Temperature   | T <sub>op</sub>  | -30  | 80                   | °C   | Note 2  |
| Storage Temperature     | T <sub>st</sub>  | -30  | 80                   | °C   | Note 2  |
| Backlight Input Voltage | V <sub>LED</sub> | -    | 20                   | V    | -       |

Note 1: The rating is defined for the signal voltages of the interface such as CLK and pixel data pairs.

Note 2: The maximum rating is defined as above based on the panel surface temperature, which might be different from ambient temperature after assembling the panel into the application. Moreover, some temperature-related phenomenon as below needed to be noticed:

- Background color, contrast and response time would be different in temperatures other than 25°C.
- Operating under high temperature will shorten LED lifetime.

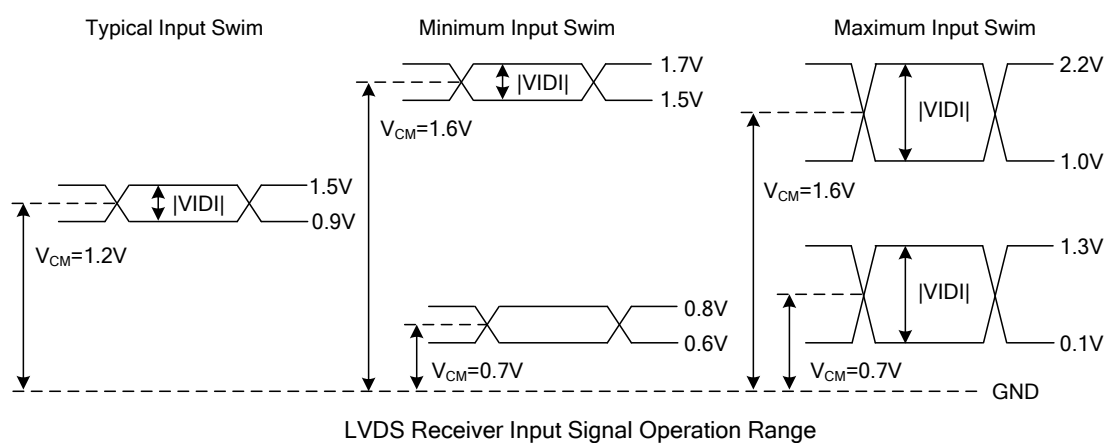
## 5. ELECTRICAL CHARACTERISTICS

### 5.1 LCD CHARACTERISTICS

$T_a = 25\text{ }^{\circ}\text{C}$ ,  $V_{SS} = 0\text{V}$

| Item                                                   | Symbol      | Condition            | Min.  | Typ.  | Max.  | Unit | Remarks |
|--------------------------------------------------------|-------------|----------------------|-------|-------|-------|------|---------|
| Power Supply Voltage                                   | $V_{DD}$    | -                    | 3.0   | 3.3   | 3.6   | V    | -       |
| Differential Input Voltage for LVDS Receiver Threshold | $V_I$       | "H" level            | -     | -     | +100  | mV   | Note 1  |
|                                                        |             | "L" level            | -100  | -     | -     |      |         |
| Power Supply Current                                   | $I_{DD}$    | $V_{DD}=3.3\text{V}$ | -     | 670   | 800   | mA   | Note 2  |
| Frame Frequency                                        | $f_{Frame}$ | -                    | 60    |       |       | Hz   | Note 3  |
| CLK Frequency                                          | $f_{CLK}$   | -                    | 75.91 | 78.36 | 79.89 | MHz  |         |

Note 1: VCM 1.2V is common mode voltage of LVDS transmitter and receiver.



Note 2: An all white check pattern is used when measuring  $I_{DD}$ .  $f_{Frame}$  is set to 60 Hz.

Note 3: For LVDS transmitter input.

Note 4: 2A fuse is applied in the module for  $I_{DD}$ . For display activation and protection purpose, power supply is recommended larger than 5A to start the display and break fuse once any short circuit occurred.

## 5.2 BACKLIGHT CHARACTERISTICS

$T_a = 25\text{ }^{\circ}\text{C}$

| Item          | Symbol    | Condition                 | Min. | Typ. | Max. | Unit | Remarks |
|---------------|-----------|---------------------------|------|------|------|------|---------|
| Input Voltage | $V_{LED}$ | $I_{LED} = 640\text{ mA}$ | 11   | 12   | 13   | V    | Note1   |
| Input current | $I_{LED}$ | 0% duty                   | -    | 10   | -    | mA   | Note 2  |
|               |           | 100% duty                 | -    | 640  | 760  |      |         |
| LED lifetime  | -         | $I_{LED} = 640\text{ mA}$ | -    | 40K  | -    | hrs  | Note 3  |

Note 1: As Fig. 5.1 shown, LED current is constant, 640 mA, controlled by the LED driver when applying 12V.

Note 2: Dimming function can be obtained by applying PWM signal from the display interface CN1. The recommended PWM signal is 1K ~ 10K Hz with 3.3V amplitude.

Note 3: The estimated lifetime is specified as the time to reduce 50% brightness by applying 640 mA at 25 °C .

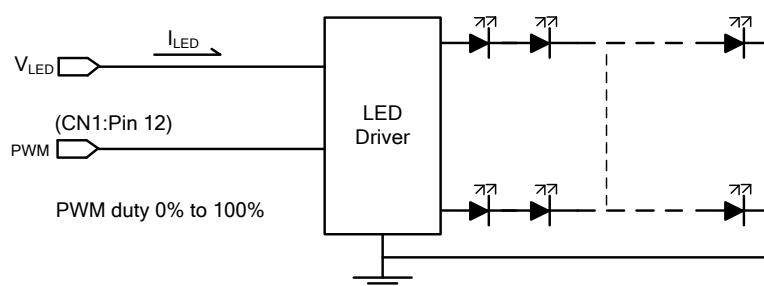


Fig 5.1

## 6. OPTICAL CHARACTERISTICS

The optical characteristics are measured based on the conditions as below:

- Supplying the signals and voltages defined in the section of electrical characteristics.
- The backlight unit needs to be turned on for 30 minutes.
- The ambient temperature is 25 °C.
- In the dark room less than 100 lx, the equipment has been set for the measurements as shown in Fig 6.1.

$$T_a = 25\text{ }^{\circ}\text{C}, f_{Frame} = 60\text{ Hz}, V_{DD} = 3.3\text{V}$$

| Item                  |       | Symbol        | Condition                                                             | Min. | Typ. | Max. | Unit              | Remarks |
|-----------------------|-------|---------------|-----------------------------------------------------------------------|------|------|------|-------------------|---------|
| Brightness of White   |       | -             | $\phi = 0^{\circ}, \theta = 0^{\circ}$ ,<br>$I_{LED} = 640\text{ mA}$ | 640  | 800  | -    | cd/m <sup>2</sup> | Note 1  |
| Brightness Uniformity |       | -             |                                                                       | 70   | -    | -    | %                 | Note 2  |
| Contrast Ratio        |       | CR            |                                                                       | 400  | 800  | -    | -                 | Note 3  |
| Response Time         |       | $T_r + T_f$   | $\phi = 0^{\circ}, \theta = 0^{\circ}$                                | -    | 25   | -    | ms                | Note 4  |
| Viewing Angle         |       | $\theta_x$    | $\phi = 0^{\circ}, CR \geq 10$                                        | -    | 85   | -    | Degree            | Note 5  |
|                       |       | $\theta_{x'}$ | $\phi = 180^{\circ}, CR \geq 10$                                      | -    | 85   | -    |                   |         |
|                       |       | $\theta_y$    | $\phi = 90^{\circ}, CR \geq 10$                                       | -    | 85   | -    |                   |         |
|                       |       | $\theta_{y'}$ | $\phi = 270^{\circ}, CR \geq 10$                                      | -    | 85   | -    |                   |         |
| Color Chromaticity    | Red   | X             | $\phi = 0^{\circ}, \theta = 0^{\circ}$                                | 0.52 | 0.57 | 0.62 | -                 | Note 6  |
|                       |       | Y             |                                                                       | 0.27 | 0.32 | 0.37 |                   |         |
|                       | Green | X             |                                                                       | 0.28 | 0.33 | 0.38 |                   |         |
|                       |       | Y             |                                                                       | 0.56 | 0.61 | 0.66 |                   |         |
|                       | Blue  | X             |                                                                       | 0.10 | 0.15 | 0.20 |                   |         |
|                       |       | Y             |                                                                       | 0.04 | 0.09 | 0.14 |                   |         |
|                       | White | X             |                                                                       | 0.25 | 0.30 | 0.35 |                   |         |
|                       |       | Y             |                                                                       | 0.26 | 0.31 | 0.36 |                   |         |

Note 1: The brightness is measured from the panel center point, P5 in Fig. 6.2, for the typical value.

Note 2: The brightness uniformity is calculated by the equation as below:

$$\text{Brightness uniformity} = \frac{\text{Min. Brightness}}{\text{Max. Brightness}} \times 100\%$$

which is based on the brightness values of the 9 points measured by BM-5 as shown in Fig. 6.2.

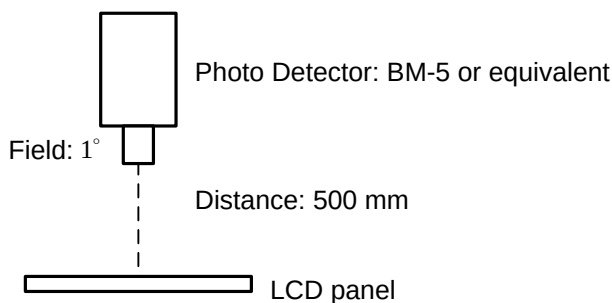


Fig. 6.1

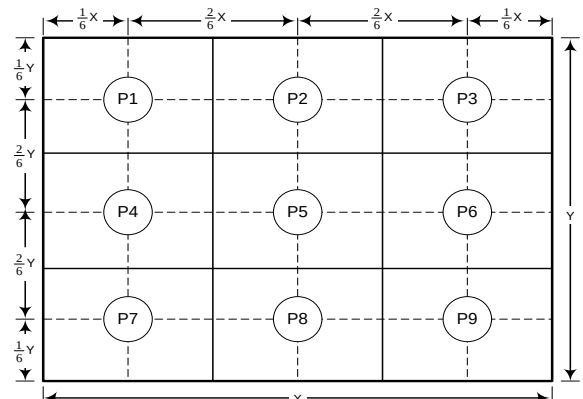


Fig. 6.2

Note 3: The Contrast Ratio is measured from the center point of the panel, P5, and defined as the following equation:

$$CR = \frac{\text{Brightness of White}}{\text{Brightness of Black}}$$

Note 4: The definition of response time is shown in Fig. 6.4. The rising time is the period from 10% brightness to 90% brightness when the data is from black to white. Oppositely, Falling time is the period from 90% brightness falling to 10% brightness.

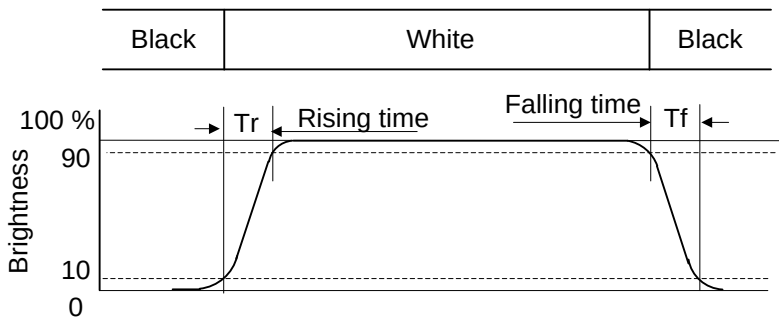


Fig.6.4

Note 5: The definition of viewing angle is shown in Fig. 6.5. Angle  $\phi$  is used to represent viewing directions, for instance,  $\phi = 270^\circ$  means 6 o'clock, and  $\phi = 0^\circ$  means 3 o'clock. Moreover, angle  $\theta$  is used to represent viewing angles from axis Z toward plane XY.

The display is super wide viewing angle version, so that the best optical performance can be obtained from every viewing direction.

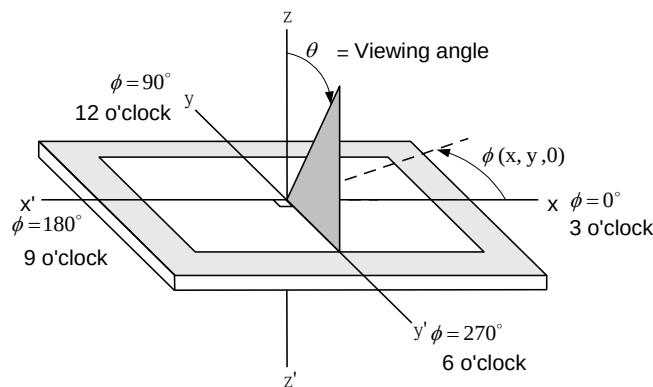
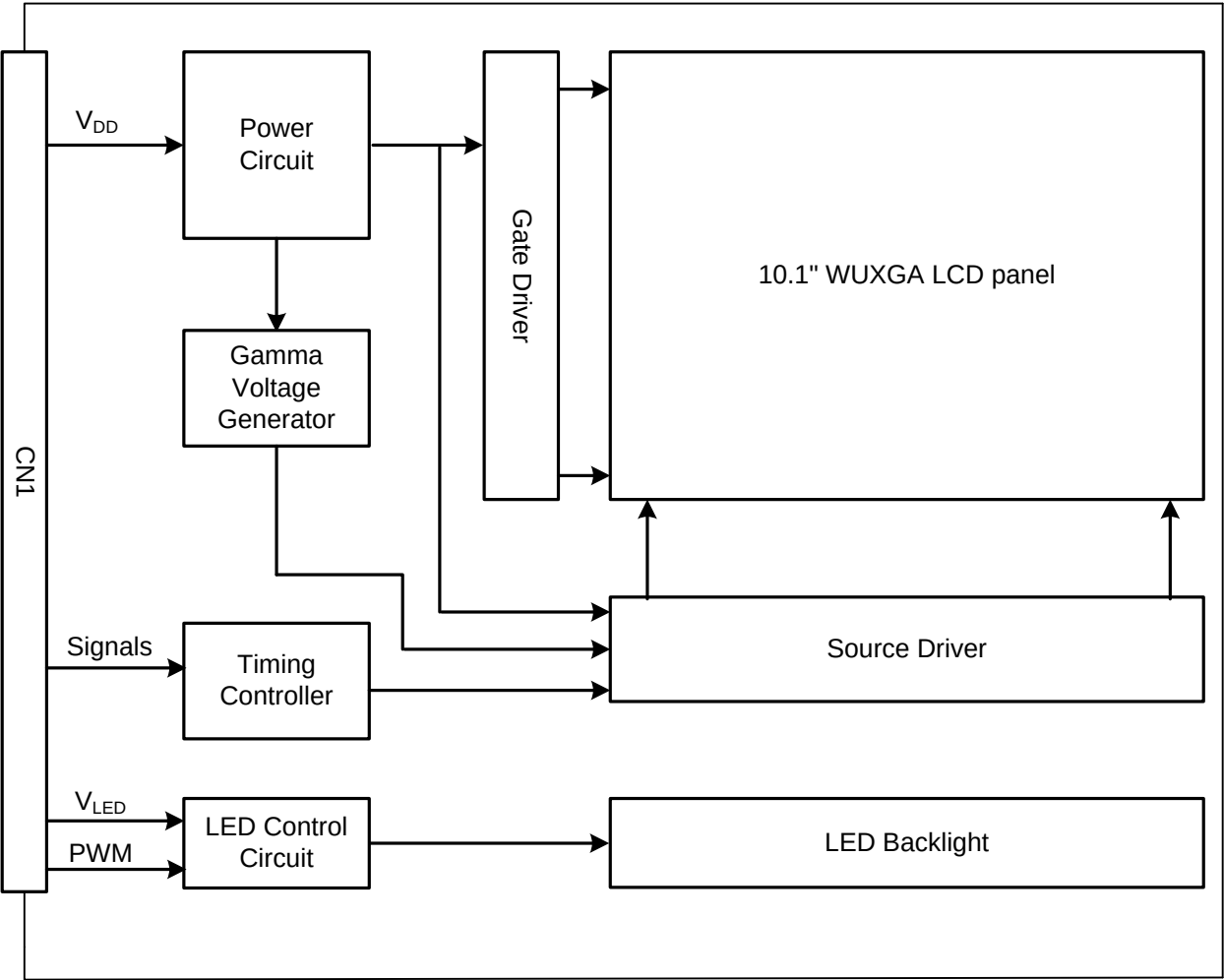


Fig 6.5

Note 6: The color chromaticity is measured from the center point of the panel, P5, as shown in Fig. 6.2.

7. BLOCK DIAGRAM



Note 1: Signals are CLK and pixel data pairs.

## 8. RELIABILITY TESTS

| Test Item                   | Condition                                                                                                                 |                                                            |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| High Temperature            | 1) Operating<br>2) 80 °C                                                                                                  | 240 hrs                                                    |
| Low Temperature             | 1) Operating<br>2) -30 °C                                                                                                 | 240 hrs                                                    |
| High Temperature            | 1) Storage<br>2) 80 °C                                                                                                    | 240 hrs                                                    |
| Low Temperature             | 1) Storage<br>2) -30 °C                                                                                                   | 240 hrs                                                    |
| Heat Cycle                  | 1) Operating<br>2) -20 °C ~70 °C<br>3) 3hrs~1hr~3hrs                                                                      | 240 hrs                                                    |
| Thermal Shock               | 1) Non-Operating<br>2) -35 °C ↔ 85 °C<br>3) 0.5 hr ↔ 0.5 hr                                                               | 240 hrs                                                    |
| High Temperature & Humidity | 1) Operating<br>2) 40 °C & 85%RH<br>3) Without condensation                                                               | 240 hrs<br>(Note 3)                                        |
| Vibration                   | 1) Non-Operating<br>2) 20~200 Hz<br>3) 2G<br>4) X, Y, and Z directions                                                    | 1 hr for each direction                                    |
| Mechanical Shock            | 1) Non-Operating<br>2) 10 ms<br>3) 50G<br>4) ±X, ±Y and ±Z directions                                                     | Once for each direction                                    |
| ESD                         | 1) Operating<br>2) Tip: 150 pF, 330 Ω<br>3) Air discharge for glass: ± 8KV<br>4) Contact discharge for metal frame: ± 8KV | 1) Glass: 9 points<br>2) Metal frame: 8 points<br>(Note 4) |

Note 1: Display functionalities are inspected under the conditions defined in the specification after the reliability tests.

Note 2: The display is not guaranteed for use in corrosive gas environments.

Note 3: Under the condition of high temperature & humidity, if the temperature is higher than 40°C, the humidity needs to be reduced as Fig. 8.1 shown.

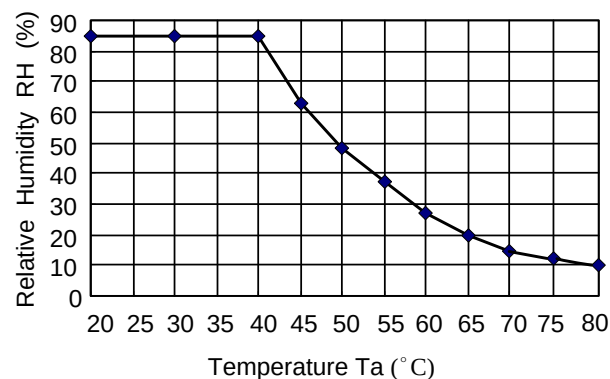


Fig. 8.1

Note 4: All pins of LCD interface (CN1) have been tested by ± 100V contact discharge of ESD under non-operating condition.

## 9. LCD INTERFACE

### 9.1 INTERFACE PIN CONNECTIONS

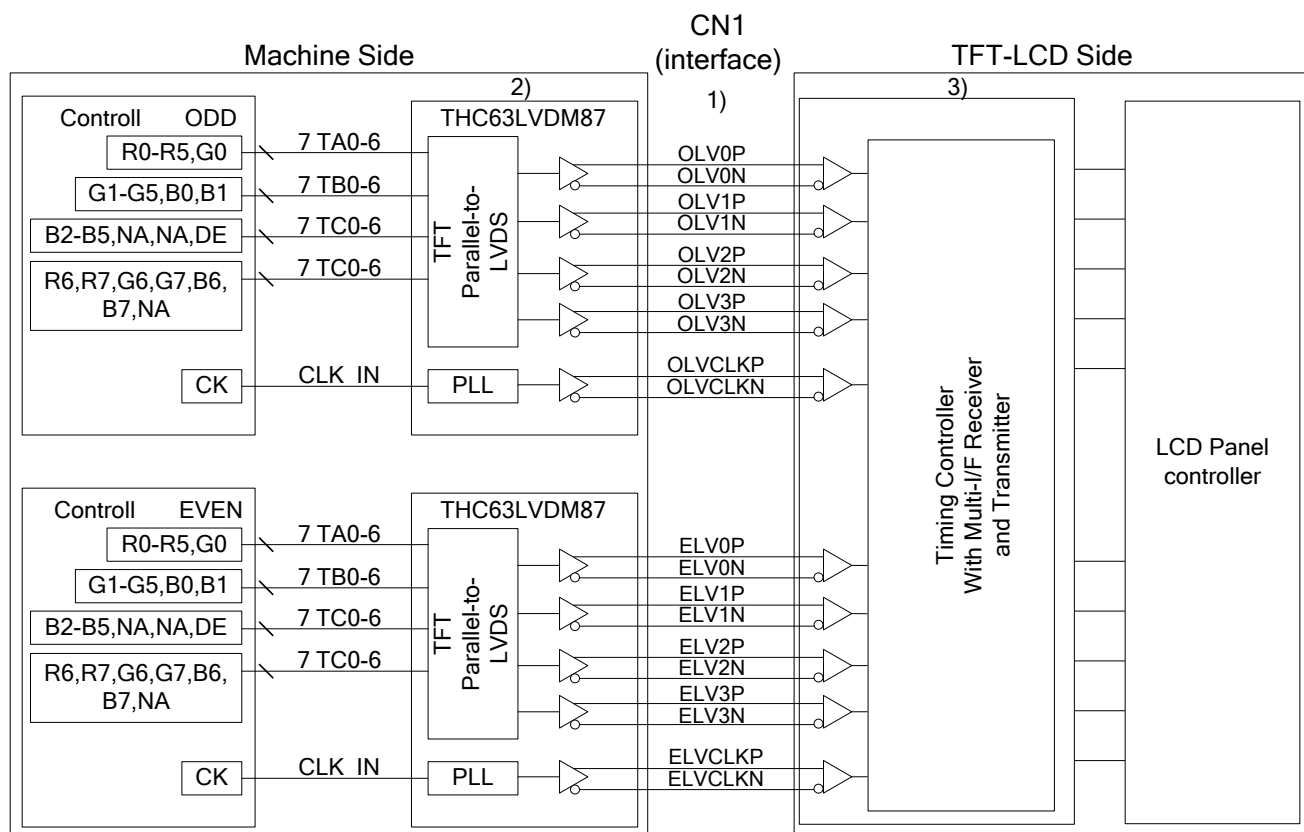
The display interface connector CN1 is 51296-5094 made by MOLEX and pin assignment is as below:

| Pin No. | Symbol          | Signal                      | Pin No. | Symbol           | Signal                       |
|---------|-----------------|-----------------------------|---------|------------------|------------------------------|
| 1       | GND             | Ground                      | 26      | OLV3N            | Odd pixel LVDS data pair 3N  |
| 2       | GND             | Ground                      | 27      | OLV3P            | Odd pixel LVDS data pair 3P  |
| 3       | V <sub>DD</sub> | Power Supply 3.3V           | 28      | GND              | Ground                       |
| 4       | V <sub>DD</sub> | Power Supply 3.3V           | 29      | ELVON            | Even pixel LVDS data pair 0N |
| 5       | V <sub>DD</sub> | Power Supply 3.3V           | 30      | ELVOP            | Even pixel LVDS data pair 0P |
| 6       | GND             | Ground                      | 31      | GND              | Ground                       |
| 7       | GND             | Ground                      | 32      | ELV1N            | Even pixel LVDS data pair 1N |
| 8       | NC              | No Connection               | 33      | ELV1P            | Even pixel LVDS data pair 1P |
| 9       | NC              | No Connection               | 34      | GND              | Ground                       |
| 10      | NC              | No Connection               | 35      | ELV2N            | Even pixel LVDS data pair 2N |
| 11      | GND             | Ground                      | 36      | ELV2P            | Even pixel LVDS data pair 2P |
| 12      | PWM             | BL Control Input            | 37      | GND              | Ground                       |
| 13      | GND             | Ground                      | 38      | ELVCLKN          | Even pixel LVDS clock pair N |
| 14      | OLV0N           | Odd pixel LVDS data pair 0N | 39      | ELVCLKP          | Even pixel LVDS clock pair P |
| 15      | OLV0P           | Odd pixel LVDS data pair 0P | 40      | GND              | Ground                       |
| 16      | GND             | Ground                      | 41      | ELV3N            | Even pixel LVDS data pair 3N |
| 17      | OLV1N           | Odd pixel LVDS data pair 1N | 42      | ELV3P            | Even pixel LVDS data pair 3P |
| 18      | OLV1P           | Odd pixel LVDS data pair 1P | 43      | GND              | Ground                       |
| 19      | GND             | Ground                      | 44      | GND              | Ground                       |
| 20      | OLV2N           | Odd pixel LVDS data pair 2N | 45      | V <sub>LED</sub> | Power Supply for LED 12V     |
| 21      | OLV2P           | Odd pixel LVDS data pair 2P | 46      | V <sub>LED</sub> | Power Supply for LED 12V     |
| 22      | GND             | Ground                      | 47      | V <sub>LED</sub> | Power Supply for LED 12V     |
| 23      | OLVCLKN         | Odd pixel LVDS clock pair N | 48      | V <sub>LED</sub> | Power Supply for LED 12V     |
| 24      | OLVCLKP         | Odd pixel LVDS clock pair P | 49      | GND              | Ground                       |
| 25      | GND             | Ground                      | 50      | GND              | Ground                       |

Note 1: OVLnN/ELVnN and OVLnP/ELVnP (n=0, 1, 2, 3), OLVCLKN/ELVCLKN and OLVCLKP/ELVCLKP should be wired by twist-pairs or side-by-side FPC patterns, respectively.

Note 2: Normal brightness: 100% PWM duty; Brightness control: 0% to 100% PWM duty.

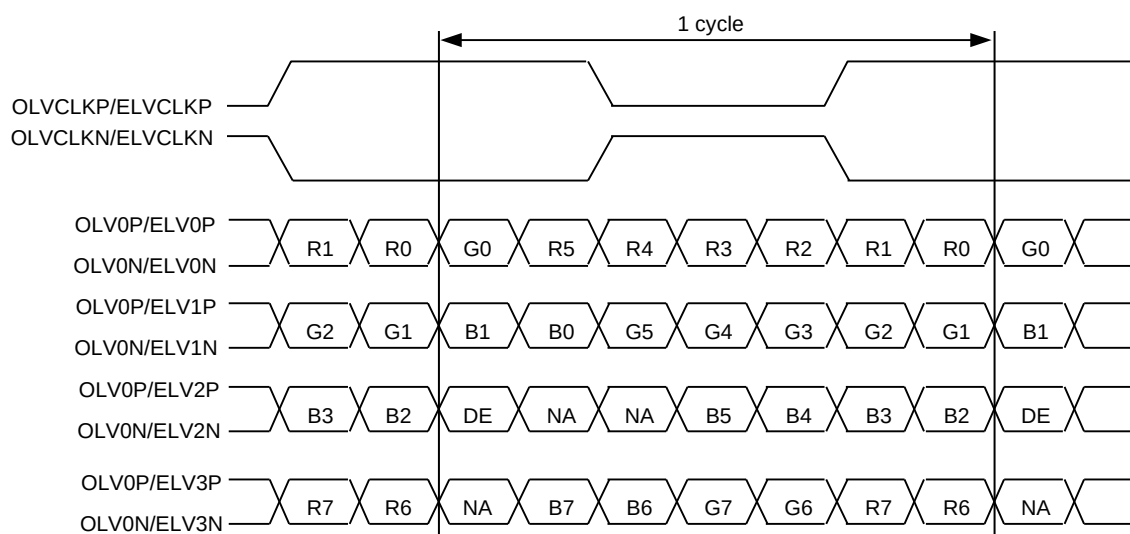
## 9.2 LVDS INTERFACE



Note 1: LVDS cable impedance should be 100 ohms per signal line when each 2-lines (P, N) is used in differential mode.

Note 2: The recommended transmitter, TH63LVDM87, is made by Thine or equivalent, which is not contained in the module.

## 9.3 LVDS DATA FORMAT



DE: Display Enable

NA: Not Available

## 9.4 TIMING CHART

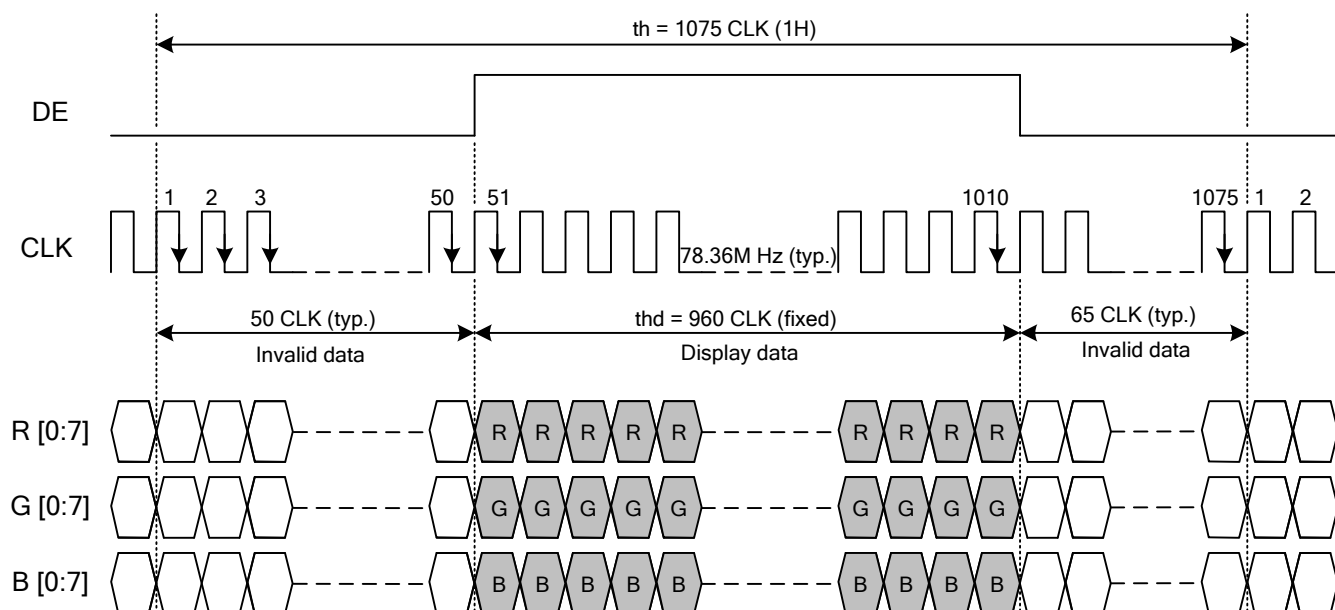


Fig. 9.1 Horizontal Timing

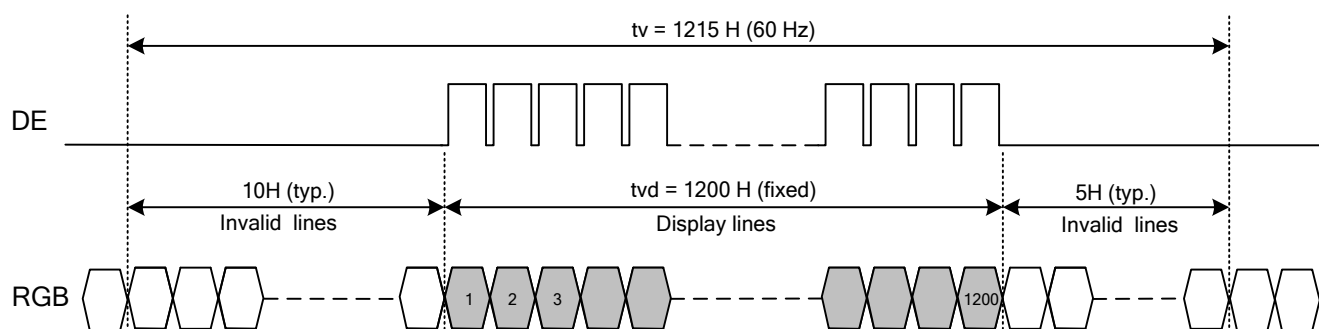


Fig. 9.2 Vertical Timing

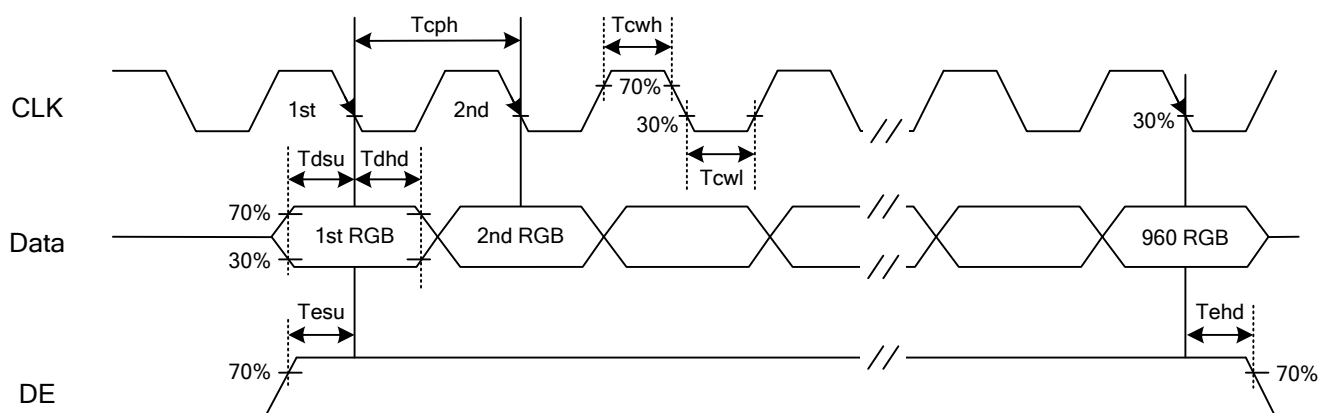


Fig. 9.3 Setup & Hold Time

## 9.5 TIMING TABLE

The column of timing sets including minimum, typical, and maximum as below are based on the best optical performance, frame frequency (  $f_{Frame}$  ) = 60Hz to define.

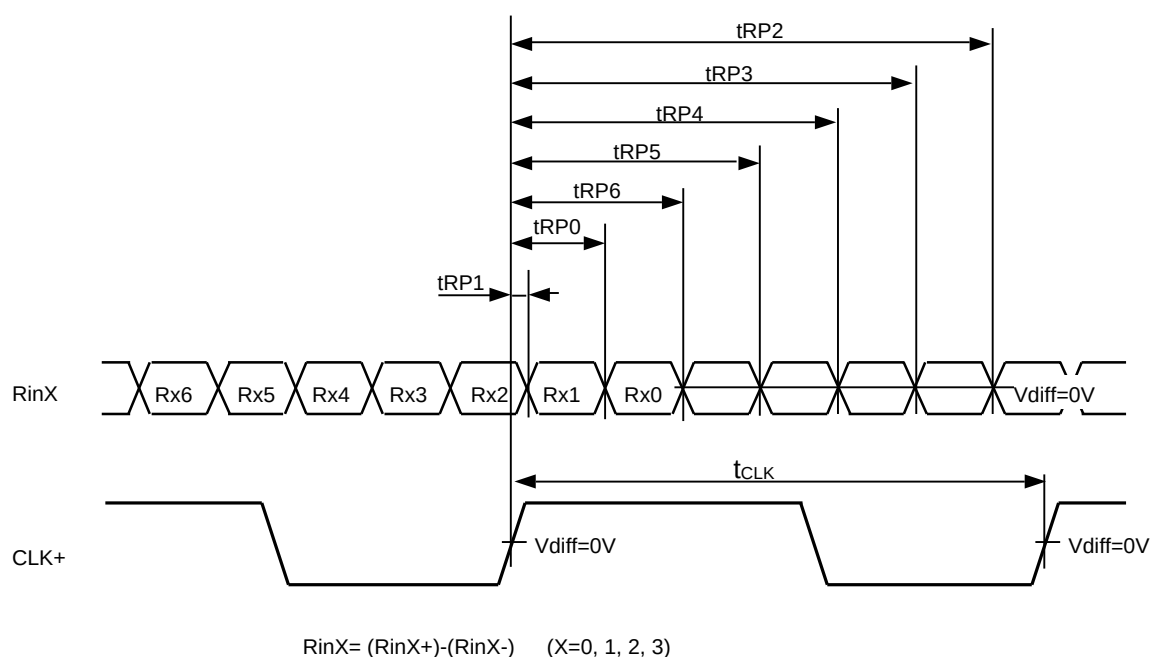
### A. DE MODE

| Item          |              | Symbol | Min.  | Typ.  | Max.  | Unit |
|---------------|--------------|--------|-------|-------|-------|------|
| CLK Frequency |              | fclk   | 75.91 | 78.36 | 79.89 | MHz  |
| Horizontal    | Display Data | thd    | 960   |       |       | CLK  |
|               | Cycle Time   | th     | 1050  | 1075  | 1087  |      |
| Vertical      | Display Line | tvd    | 1200  |       |       | H    |
|               | Cycle Time   | tv     | 1210  | 1215  | 1225  |      |

### B. CLOCK AND DATA INPUT TIMING

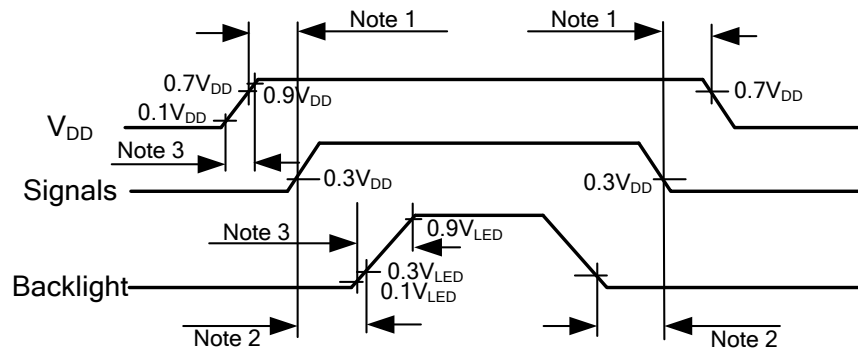
| Item |            | Symbol | Min. | Typ.  | Max. | Unit |
|------|------------|--------|------|-------|------|------|
| CLK  | Duty       | Tcwh   | 47.5 | 50    | 52.5 | %    |
|      | Cycle Time | Tcph   | -    | 12.76 | -    | ns   |
| Data | Setup Time | Tdsu   | 1    | -     | -    |      |
|      | Hold Time  | Tdhd   | 1    | -     | -    |      |
| DE   | Setup Time | Tesu   | 1    | -     | -    |      |
|      | Hold Time  | Tehd   | 1    | -     | -    |      |

## 9.6 LVDS RECEIVER TIMING



| Item                |                   | Symbol | Min.            | Typ.      | Max.            | Unit |
|---------------------|-------------------|--------|-----------------|-----------|-----------------|------|
| CLK                 | Cycle frequency   | 1/tCLK | 75.91           | 78.36     | 79.89           | MHz  |
| RinX<br>(X=0,1,2,3) | 0 data position   | tRP0   | 1/7* tCLK -0.91 | 1/7* tCLK | 1/7* tCLK +0.91 | ns   |
|                     | 1st data position | tRP1   | -0.91           | 0         | +0.91           |      |
|                     | 2nd data position | tRP2   | 6/7* tCLK -0.91 | 6/7* tCLK | 6/7* tCLK +0.91 |      |
|                     | 3rd data position | tRP3   | 5/7* tCLK -0.91 | 5/7* tCLK | 5/7* tCLK +0.91 |      |
|                     | 4th data position | tRP4   | 4/7* tCLK -0.91 | 4/7* tCLK | 4/7* tCLK +0.91 |      |
|                     | 5th data position | tRP5   | 3/7* tCLK -0.91 | 3/7* tCLK | 3/7* tCLK +0.91 |      |
|                     | 6th data position | tRP6   | 2/7* tCLK -0.91 | 2/7* tCLK | 2/7* tCLK +0.91 |      |

## 9.7 POWER SEQUENCE



Note 1: In order to avoid any damages,  $V_{DD}$  has to be applied before all other signals. The opposite is true for power off where  $V_{DD}$  has to be remained on until all other signals have been switch off. The recommended time period is 1 second.

Note 2: In order to avoid showing uncompleted patterns in transient state. It is recommended that switching the backlight on is delayed for 1 second after the signals have been applied. The opposite is true for power off where the backlight has to be switched off 1 second before the signals are removed.

Note 3: In order to avoid high Inrush current,  $V_{DD}$  &  $V_{LED}$  rising time need to set at  $0.5ms < V_{DD} \text{ \& \& } V_{LED} < 10ms$ .

## 9.8 DATA INPUT for DISPLAY COLOR

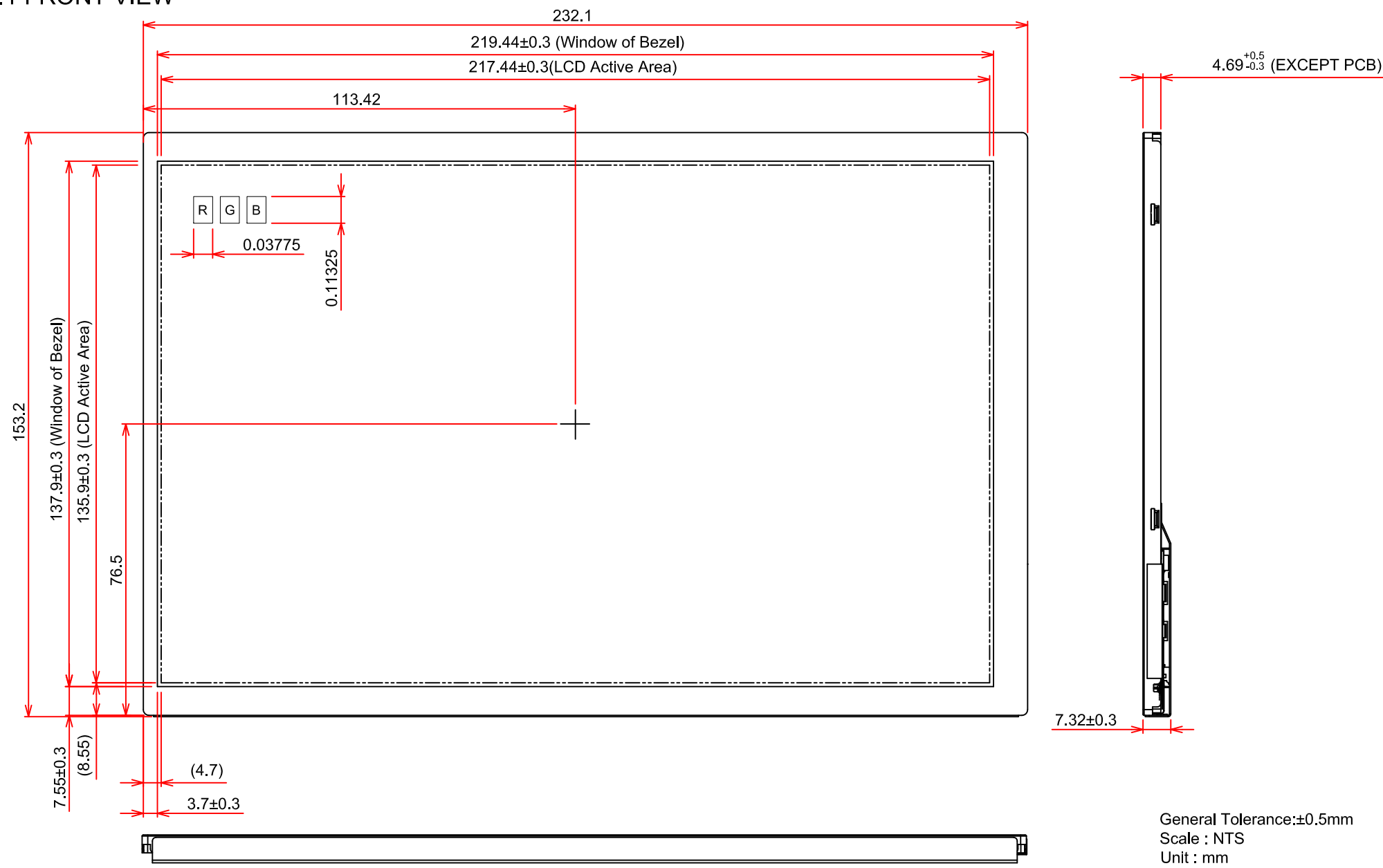
| Input color |            | Red Data |    |    |    |     |    |    |    | Green Data |    |    |    |     |    |    |    | Blue Data |    |    |    |     |    |    |    |
|-------------|------------|----------|----|----|----|-----|----|----|----|------------|----|----|----|-----|----|----|----|-----------|----|----|----|-----|----|----|----|
|             |            | R7       | R6 | R5 | R4 | R3  | R2 | R1 | R0 | G7         | G6 | G5 | G4 | G3  | G2 | G1 | G0 | B7        | B6 | B5 | B4 | B3  | B2 | B1 | B0 |
|             |            | MSB      |    |    |    | LSB |    |    |    | MSB        |    |    |    | LSB |    |    |    | MSB       |    |    |    | LSB |    |    |    |
| 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         | 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(1)     | 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(2)     | 0        | 0  | 0  | 0  | 0   | 0  | 1  | 0  | 0          | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0         | 0  | 0  | 0  | 0   | 0  | 0  | 0  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | Red(253)   | 1        | 1  | 1  | 1  | 1   | 1  | 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       | 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  |
|             | Green(1)   | 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(2)   | 0        | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 0   | 0  | 1  | 0  | 0         | 0  | 0  | 0  | 0   | 0  | 0  | 0  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | Green(253) | 0        | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 1          | 1  | 1  | 1  | 1   | 1  | 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        | 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  |
|             | Blue(1)    | 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(2)    | 0        | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0         | 0  | 0  | 0  | 0   | 0  | 1  | 0  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | :          | :        | :  | :  | :  | :   | :  | :  | :  | :          | :  | :  | :  | :   | :  | :  | :  | :         | :  | :  | :  | :   | :  | :  | :  |
|             | Blue(253)  | 0        | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 1         | 1  | 1  | 1  | 1   | 1  | 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  |

Note 1: Definition of gray scale : Color(n) Number in parenthesis indicates gray scale level. Larger number corresponds to brighter level.

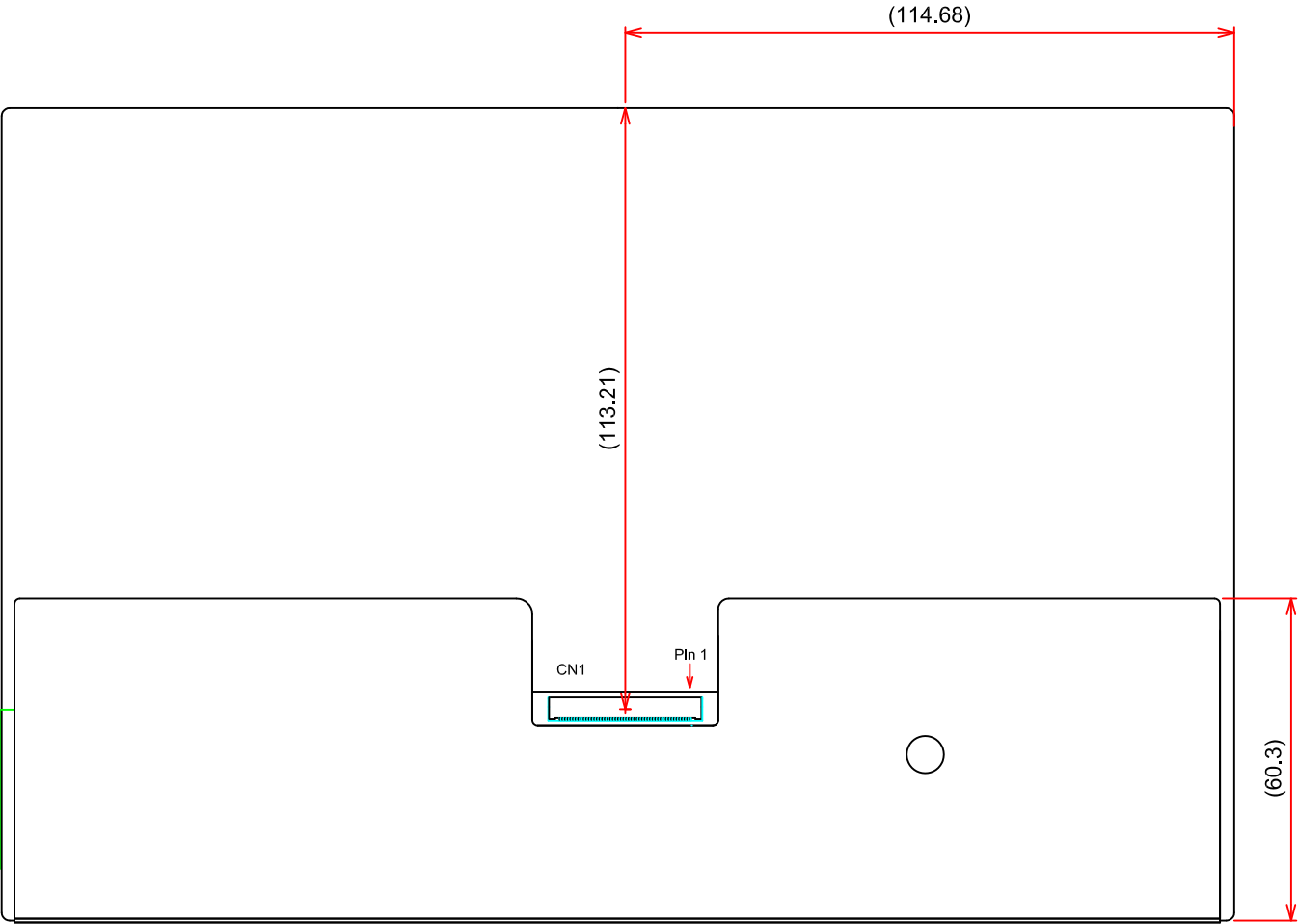
Note 2: Data Signal : 1 : High, 0 : Low

10. OUTLINE DIMENSIONS

10.1 FRONT VIEW



10.2 REAR VIEW



General Tolerance:±0.5mm  
Scale : NTS  
Unit : mm

## 11. APPEARANCE STANDARD

The appearance inspection is performed in a dark room around 500~1000 lx based on the conditions as below:

- The distance between inspector's eyes and display is 30 cm.
- The viewing zone is defined with angle  $\theta$  shown in Fig. 11.1 The inspection should be performed within  $45^\circ$  when display is shut down. The inspection should be performed within  $5^\circ$  when display is power on.

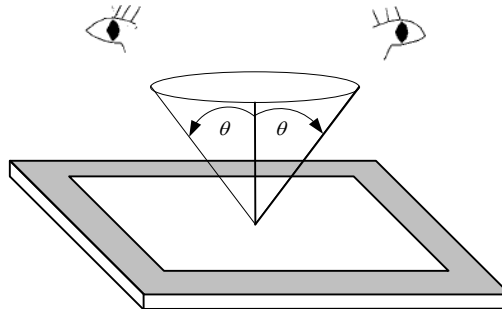


Fig. 11.1

### 11.1 THE DEFINITION OF LCD ZONE

LCD panel is divided into 2 areas as shown in Fig.11.2 for appearance specification in next section. A zone is the LCD active area (dot area); B zone is the area between A zone and metal frame.

In terms of housing design, B zone is the recommended window area customers' housing should be located in.

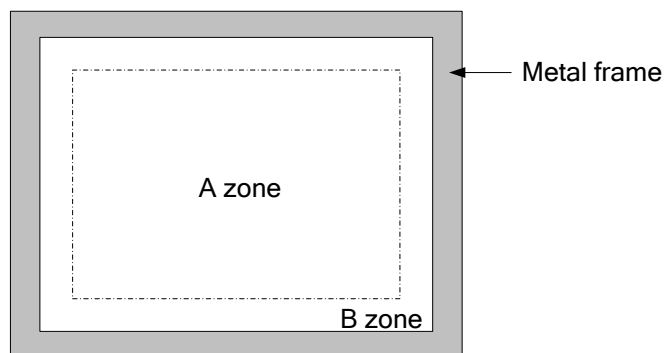


Fig. 11.2

## 11.2 LCD APPEARANCE SPECIFICATION

The specification as below is defined as the amount of unexpected phenomenon or material in different zones of LCD panel. The definitions of length, width and average diameter using in the table are shown in Fig. 11.4 and Fig. 11.5.

| Item                                              | Criteria                              |                     |                |                | Applied zone    |
|---------------------------------------------------|---------------------------------------|---------------------|----------------|----------------|-----------------|
| Scratches                                         | Length (mm)                           | Width (mm)          | Maximum number | Minimum space  | A               |
|                                                   | $L \leq 15$                           | $W \leq 0.02$       | Ignored        | -              |                 |
|                                                   | $L \leq 15$                           | $0.02 < W \leq 0.1$ | 5              | -              |                 |
|                                                   | $L > 15$                              | $0.1 < W$           | 0              | -              |                 |
| Dent                                              | Serious one is not allowed            |                     |                |                | A               |
| Wrinkles in polarizer                             | Serious one is not allowed            |                     |                |                | A               |
| Bubbles on polarizer                              | Average diameter (mm)                 |                     | Maximum number |                | A               |
|                                                   | $D < 0.3$                             |                     | Ignored        |                |                 |
|                                                   | $0.3 \leq D \leq 0.6$                 |                     | 4              |                |                 |
|                                                   | $0.6 < D$                             |                     | 0              |                |                 |
| 1) Stains<br>2) Foreign Materials<br>3) Dark Spot | Filamentous (Line shape)              |                     |                |                | A               |
|                                                   | Length (mm)                           | Width (mm)          | Maximum number |                |                 |
|                                                   | $L \leq 2.0$                          | $W \leq 0.15$       | 5              |                |                 |
|                                                   | $L > 2.0$                             | $0.15 < W$          | 0              |                |                 |
|                                                   | Round (Dot shape)                     |                     |                |                | A               |
|                                                   | Average diameter (mm)                 | Maximum number      | Minimum Space  |                |                 |
|                                                   | $D \leq 0.2$                          | Ignored             | -              |                |                 |
|                                                   | $0.2 < D \leq 0.6$                    | 4                   | -              |                |                 |
|                                                   | $0.6 < D$                             | 0                   | -              |                |                 |
|                                                   | Those wiped out easily are acceptable |                     |                |                |                 |
| Dot-Defect                                        |                                       | Area①               | Area②          | Maximum number | A<br>(Note 1,2) |
|                                                   | Bright dot-defect                     | 0 dot               | 2 dot          | 2 dot          |                 |
|                                                   | Dark dot-defect                       | 2 dot               | 3 dot          | 3 dot          |                 |
|                                                   | Bright + Dark point                   | 2 dot               | 3 dot          | 4 dot          |                 |
| Mura & Light Leakage                              | Invisible through 2% ND filter        |                     |                |                | A<br>(Note 3)   |

Note 1: The Dot-Defect inspection within A zone (active area) would be divided into area ①, ② as Fig. 11.3 shown.

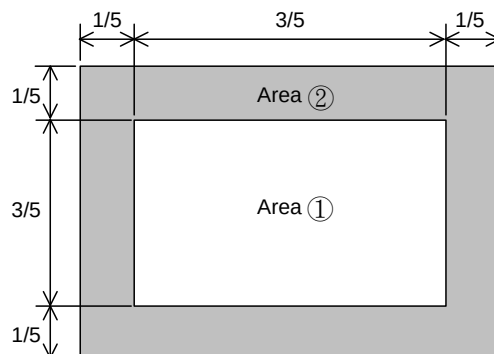


Fig. 11.3

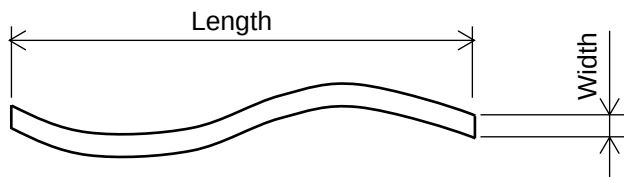


Fig 11.4

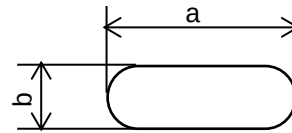
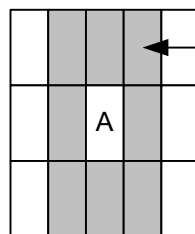


Fig 11.5

$$\text{Average diameter} = \frac{a+b}{2}$$

Note 2: The definitions of dot defect are as below:

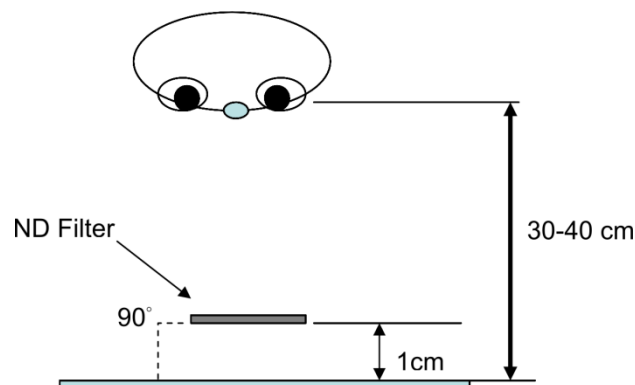
- The defect area of the dot must be bigger than half of a dot.
- The definition of 1-dot-defect is the defect-dot, which is isolated and no adjacent defect-dot.
- The definition of adjacent dot is shown as Fig. 11.6.
- 2-adjacent dot is two dot defects.
- 3-adjacent dot is not allowed.



The dots colored gray are adjacent to defect-dot A.

Fig. 11.6

Note 3: The inspection method with ND Filter is to hold it in front of the panel around 1 cm and inspect the panel with 35±5 cm distance for 1 second.



## 12. PRECAUTIONS

### 12.1 PRECAUTIONS of ESD

- 1) Before handling the display, please ensure your body has been connected to ground to avoid any damages by ESD. Also, do not touch display's interface directly when assembling.
- 2) Please remove the protection film very slowly before turning on the display to avoid generating ESD.

### 12.2 PRECAUTIONS of HANDLING

- 1) In order to keep the appearance of display in good condition; please do not rub any surfaces of the displays by sharp tools harder than 3H, especially touch panel, metal frame and polarizer.
- 2) Please do not pile the displays in order to avoid any scars leaving on the display. In order to avoid any injuries, please pay more attention for the edges of glasses and metal frame, and wear finger cots to protect yourself and the display before working on it.
- 3) Touching the display area or the terminal pins with bare hand is prohibited. This is because it will stain the display area and cause poor insulation between terminal pins, and might affect display's electrical characteristics furthermore.
- 4) Do not use any harmful chemicals such as acetone, toluene, and isopropyl alcohol to clean display's surfaces.
- 5) Please use soft cloth or absorbent cotton with ethanol to clean the display by gently wiping. Moreover, when wiping the display, please wipe it by horizontal or vertical direction instead of circling to prevent leaving scars on the display's surface, especially polarizer.
- 6) Please wipe any unknown liquids immediately such as saliva, water or dew on the display to avoid color fading or any permanently damages.
- 7) Maximum pressure to the surface of the display must be less than  $1.96 \times 10^4$  Pa. If the area of adding pressure is less than  $1 \text{ cm}^2$ , the maximum pressure must be less than 1.96N.

### 12.3 PRECAUTIONS OF OPERATING

- 1) Please input signals and voltages to the displays according to the values defined in the section of electrical characteristics to obtain the best performance. Any voltages over than absolute maximum rating will cause permanent damages to this display. Also, any timing of the signals out of this specification would cause unexpected performance.
- 2) When the display is operating at significant low temperature, the response time will be slower than it at  $25^\circ\text{C}$ . In high temperature, the color will be slightly dark and blue compared to original pattern. However, these are temperature-related phenomenon of LCD and it will not cause permanent damages to the display when used within the operating temperature.
- 3) The use of screen saver or sleep mode is recommended when static images are likely for long periods of time. This is to avoid the possibility of image sticking.
- 4) Spike noise can cause malfunction of the circuit. The recommended limitation of spike noise is no bigger than  $\pm 100 \text{ mV}$ .

|                                  |              |                               |      |        |
|----------------------------------|--------------|-------------------------------|------|--------|
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|----------------------------------|--------------|-------------------------------|------|--------|

## 12.4 PRECAUTIONS of STORAGE

If the displays are going to be stored for years, please be aware the following notices.

- 1) Please store the displays in a dark room to avoid any damages from sunlight and other sources of UV light.
- 2) The recommended long-term storage temperature is between 10 C° ~35 C° and 55%~75% humidity to avoid causing bubbles between polarizer and LCD glasses, and polarizer peeling from LCD glasses.
- 3) It would be better to keep the displays in the container, which is shipped from JDI, and do not unpack it.
- 4) Please do not stick any labels on the display surface for a long time, especially on the polarizer.

### 13. DESIGNATION of LOT MARK

- 1) The lot mark is showing in Fig.13.1. First 4 digits are used to represent production lot, T represented made in Taiwan, and the last 6 digits are the serial number.

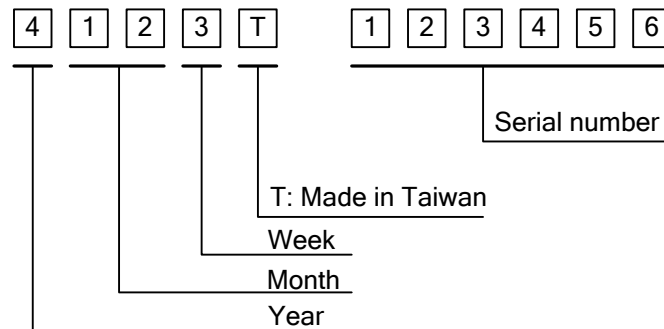


Fig. 13.1

- 2) The tables as below are showing what the first 4 digits of lot mark are shorted for.

| Year | Lot Mark | Month | Lot Mark | Month | Lot Mark | Week       | Lot Mark |
|------|----------|-------|----------|-------|----------|------------|----------|
| 2014 | 4        | Jan.  | 01       | Jul.  | 07       | 1~7 days   | 1        |
| 2015 | 5        | Feb.  | 02       | Aug.  | 08       | 8~14 days  | 2        |
| 2016 | 6        | Mar.  | 03       | Sep.  | 09       | 15~21 days | 3        |
| 2017 | 7        | Apr.  | 04       | Oct.  | 10       | 22~28 days | 4        |
| 2018 | 8        | May   | 05       | Nov.  | 11       | 29~31 days | 5        |
|      |          | Jun.  | 06       | Dec.  | 12       |            |          |

- 3) Except letters I and O, revision number will be shown on lot mark and following letters A to Z.

| REV No. | ITEM                          | REMARKS |
|---------|-------------------------------|---------|
| A       | -                             | -       |
| B       | Color Filter Consolidation    | PCN0978 |
| C       | Color Filter Supplier Changed | PCN0998 |
| D       | LED Driver IC Changed         | PCN1042 |
| D       | Tcon IC Changed               | PCN1102 |

- 4) The location of the lot mark is on the back of the display shown in Fig. 13.2.

Label example:

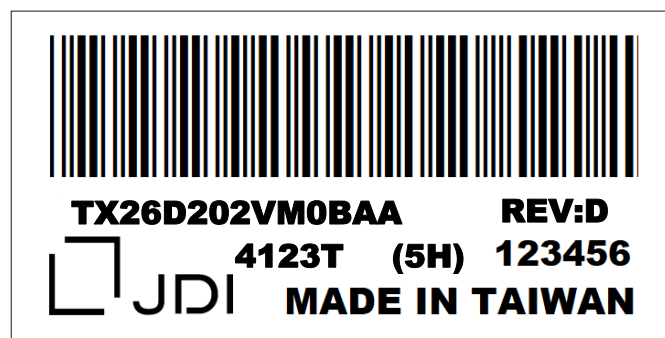


Fig. 13.2