



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WG320240BX

General Specification

| Item | Dimension | Unit |
|------------------|---------------------------|------|
| Number of dots | 320 x 240 | — |
| Module dimension | 160.0 x 109.0 x 13.0(MAX) | mm |
| View area | 122.0 x 92.0 | mm |
| Active area | 115.18 x 86.38 | mm |
| Dot size | 0.34 x 0.34 | mm |
| Dot pitch | 0.36 x 0.36 | mm |
| Duty | 1/240 | |
| Backlight Type | LED | |
| IC | S1D 13700 | |
| Interface | 8080 | |

Absolute Maximum Ratings

| Item | Symbol | Min | Typ | Max | Unit |
|--------------------------|-----------------|------|-----|--------------|------|
| Operating Temperature | T_{OP} | -20 | — | +70 | °C |
| Storage Temperature | T_{ST} | -30 | — | +80 | °C |
| Input Voltage | V_{IN} | -0.3 | — | $V_{DD}+0.5$ | V |
| Output Voltage | V_{OUT} | -0.3 | — | $V_{DD}+0.5$ | V |
| Supply Voltage For Logic | $V_{DD}-V_{SS}$ | 0 | — | 6.5 | V |
| Supply Voltage For LCD | $V_{DD}-V_0$ | 0 | — | 32 | V |

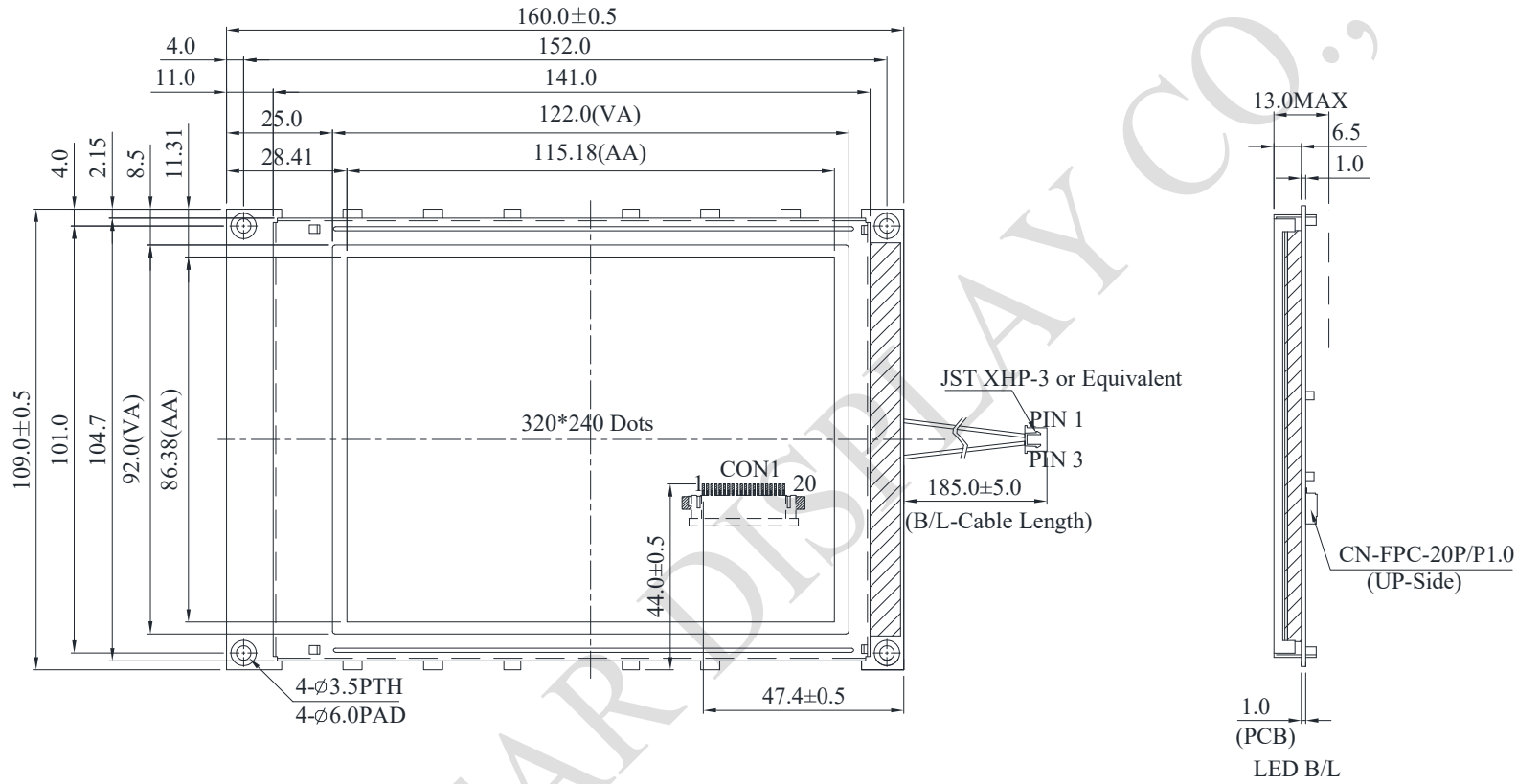
Electrical Characteristics

| Item | Symbol | Condition | Min | Typ | Max | Unit |
|--------------------------|-----------------|---------------------------|--------------|------|-------|------|
| Supply Voltage For Logic | $V_{DD}-V_{SS}$ | — | 4.5 | 5.0 | 5.5 | V |
| Supply Voltage For LCD | $V_{DD}-V_0$ | $T_a=-20^{\circ}\text{C}$ | — | — | 26.1 | V |
| | | $T_a=25^{\circ}\text{C}$ | 23.0 | 23.6 | 24.2 | V |
| | | $T_a=70^{\circ}\text{C}$ | 22.2 | — | — | V |
| Input High Volt. | V_{IH} | — | 3.5 | — | — | V |
| Input Low Volt. | V_{IL} | — | — | — | 1.0 | V |
| Output High Volt. | V_{OH} | — | $V_{DD}-0.4$ | — | — | V |
| Output Low Volt. | V_{OL} | — | — | — | 0.4 | V |
| Supply Current | I_{DD} | $V_{DD}=5.0\text{V}$ | 35.0 | 65.0 | 110.0 | mA |

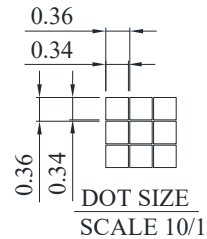
Interface Pin Function

| Pin No. | Symbol | Level | Description |
|---------|---------|------------|---|
| 1 | VSS | 0V | Ground |
| 2 | VDD | 5.0V | Power supply for Logic |
| 3 | V0 | (Variable) | Driving voltage for LCD |
| 4 | A0 | H/L | RD=L WR=H ,A0=L :Data Read AO=H :Status read RD=H WR=L ,A0=L :Data Write AO=H :Command write |
| 5 | WR | H/L | 8080 family: Write signal, 6800 family: R/W signal |
| 6 | RD | H/L | 8080 family: Read signal, 6800 family: Enable clock |
| 7~14 | DB0~DB7 | H/L | Data bus line |
| 15 | CS | H/L | Chip select ,Active L |
| 16 | RES | H/L | Controller reset signal, Active L |
| 17 | Vee | — | Negative Voltage Output |
| 18 | NC | | No connection |
| 19 | FG | — | Frame Ground |
| 20 | WAIT | — | Check Busy |

Contour Drawing



| Pin No. | Symbol |
|---------|------------------|
| 1 | V _{SS} |
| 2 | V _{DD} |
| 3 | V _O |
| 4 | A0 |
| 5 | \overline{WR} |
| 6 | \overline{RD} |
| 7 | DB0 |
| 8 | DB1 |
| 9 | DB2 |
| 10 | DB3 |
| 11 | DB4 |
| 12 | DB5 |
| 13 | DB6 |
| 14 | DB7 |
| 15 | \overline{CS} |
| 16 | \overline{RES} |
| 17 | V _{EE} |
| 18 | NC |
| 19 | FG |
| 20 | WAIT |



The non-specified tolerance of dimension is $\pm 0.3\text{mm}$.