

## **FEATURES**

**The features of LCD are as follows**

- Controller: ILI9320
- Display mode: 3.2" QVGA TFT-LCD
- Interface input data: 16-bit parallel
- Viewing direction: 9:00 O'clock
- Operating temperature: -10°C ~ 70°C
- Storage temperature: -30°C ~ 80°C
- LCD module size (mm): 57.54(w) x 79.20(h) x 4.4(t) with TP
- TP viewing area (mm): 51.20(w) x 71.20(h)
- TP active area (mm): 50.20(w) x 70.20(h)
- LCD active area (mm): 48.60(w) x 64.80(h)
- Number of dots: 240 (RGB) x 320 dots
- Pixel pitch: 0.2025(h) x 0.2025(v)
- Backlight type: 5-parallel white LED

## INTERFACE PIN FUNCTION

| No. | Symbol | Function                      |
|-----|--------|-------------------------------|
| 1   | GND    | Ground                        |
| 2   | VDD    | Power supply                  |
| 3   | VDD    | Power supply                  |
| 4   | CS     | Chip select (active low)      |
| 5   | RS     | Data or command logic control |
| 6   | WR     | Write enable (active low)     |
| 7   | RD     | Read enable (active low)      |
| 8   | RESET  | Reset pin                     |
| 9   | DB0    | Data bus                      |
| 10  | DB1    |                               |
| 11  | DB2    |                               |
| 12  | DB3    |                               |
| 13  | DB4    |                               |
| 14  | DB5    |                               |
| 15  | DB6    |                               |
| 16  | DB7    |                               |
| 17  | DB8    |                               |
| 18  | DB9    |                               |
| 19  | DB10   |                               |
| 20  | DB11   |                               |
| 21  | DB12   |                               |
| 22  | DB13   |                               |
| 23  | DB14   |                               |
| 24  | DB15   |                               |
| 25  | GND    | Ground                        |
| 26  | Y-     | Touch Panel output pins       |
| 27  | X-     |                               |
| 28  | Y+     |                               |
| 29  | X+     |                               |
| 30  | LED-1  | Backlight cathode             |
| 31  | LED-2  | Backlight cathode             |
| 32  | LED-3  | Backlight cathode             |
| 33  | LED-4  | Backlight cathode             |
| 34  | LED-5  | Backlight cathode             |
| 35  | LED-A  | Backlight anode               |
| 36  | LED-A  | Backlight anode               |
| 37  | GND    | Ground                        |

## ELECTRICAL CHARACTERISTICS

### ABSOLUTE MAXIMUM RATINGS

| Item                     | Symbol    | Rating       | Unit |
|--------------------------|-----------|--------------|------|
| Supply Voltage range     | VDD       | -0.3 to +4.6 | V    |
| LCD Supply Voltage range | VCC - VEE | 18.5         | V    |

### DC CHARACTERISTICS

(VDD = 2.40 ~ 3.30V, IOVDD = 1.65 ~ 3.30V)

| Item                              | Symbol           | Min.      | Typ. | Max.      | Unit |
|-----------------------------------|------------------|-----------|------|-----------|------|
| Input high voltage                | V <sub>IH</sub>  | 0.8*IOVDD | -    | IOVDD     | V    |
| Input low voltage                 | V <sub>IL</sub>  | -0.3      | -    | 0.2*IOVDD | V    |
| Output high voltage<br>(DB0-DB15) | V <sub>OH1</sub> | 0.8*IOVDD | -    | -         | V    |
| Output low voltage<br>(DB0-DB15)  | V <sub>OL1</sub> | -         | -    | 0.2*IOVDD | V    |
| I/O leakage current               | I <sub>LI</sub>  | -0.1      | -    | 0.1       | μA   |

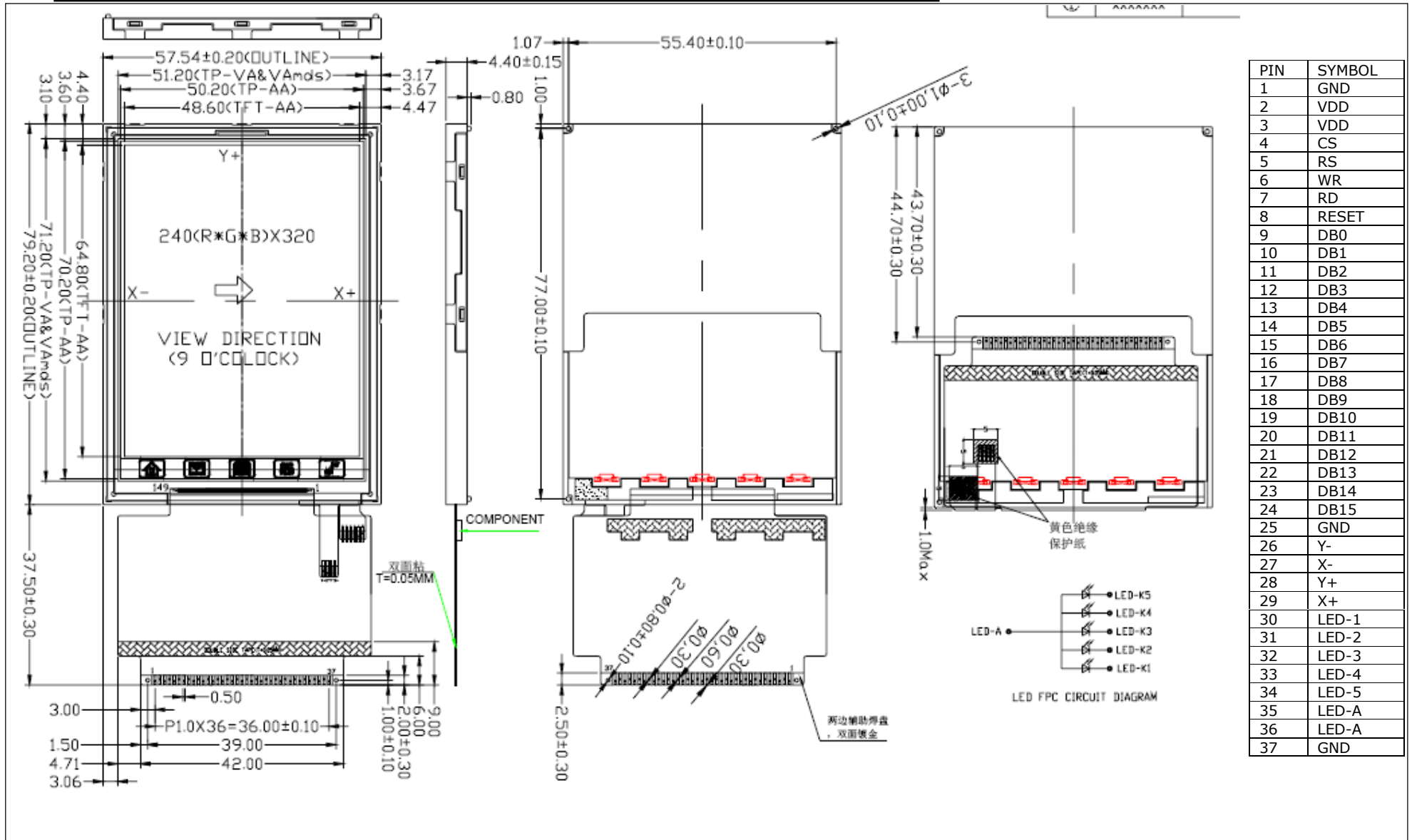
Remarks: Refer to ILI9320 data sheet for AC Characteristics

### BACKLIGHT UNIT

| Item                     | Symbol          | Min. | Typ. | Max. | Unit              |
|--------------------------|-----------------|------|------|------|-------------------|
| Input voltage            | V <sub>BL</sub> | 3.0  | 3.2  | 3.4  | V                 |
| Current                  | I <sub>BL</sub> | -    | 15   | -    | mA/chip           |
| Brightness               | -               | -    | 3500 | -    | cd/m <sup>2</sup> |
| Luminous Intensity Ratio | -               | -    | -    | 20   | %                 |

**This page left blank**

**Module Name: TY320T 240320 Rev 1.0**



TechToys Company

[www.TechToys.com.hk](http://www.TechToys.com.hk)

Tel: (852) 28576267 Fax: (852) 28576216