# LCD / LCM SPECIFICATION

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# RC2002A

## General Specification

The features is described as follow:

- Module Dimension: 116.0 x 37.0 x 13.9 (Max.) mm
- View Area: 85.0 x 18.6 mm
- Active Area: 73.5 x 11.5 mm
- Number of Characters: 20 Characters x 2 Lines
- Dot Size: 0.60 x 0.65 mm
- Dot Pitch: 0.65 x 0.70 mm
- Character Size: 3.20 x 5.55 mm
- Character Pitch: 3.70 x 5.95 mm
- Duty: 1/16
- Backlight Type: LED
- IC:ST7066U
- Interface:68 series

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# Interface Pin Function

| Pin No. | Symbol | Level | Description |
|---|---|---|---|
| 1 | $V_{SS}$ | 0V | Ground |
| 2 | $V_{DD}$ | 5.0V | Supply Voltage for logic |
| 3 | VO | (Variable) | Operating voltage for LCD |
| 4 | RS | H/L | H: DATA, L: Instruction code |
| 5 | R/W | H/L | H: Read (Module --> MPU) L: Write(MPU --> Module) |
| 6 | E | H,H→L | Chip enable signal |
| 7 | DB0 | H/L | Data bus line |
| 8 | DB1 | H/L | Data bus line |
| 9 | DB2 | H/L | Data bus line |
| 10 | DB3 | H/L | Data bus line |
| 11 | DB4 | H/L | Data bus line |
| 12 | DB5 | H/L | Data bus line |
| 13 | DB6 | H/L | Data bus line |
| 14 | DB7 | H/L | Data bus line |
| 15 | A | — | Power supply for B/L + |
| 16 | K | — | Power supply for B/L - |

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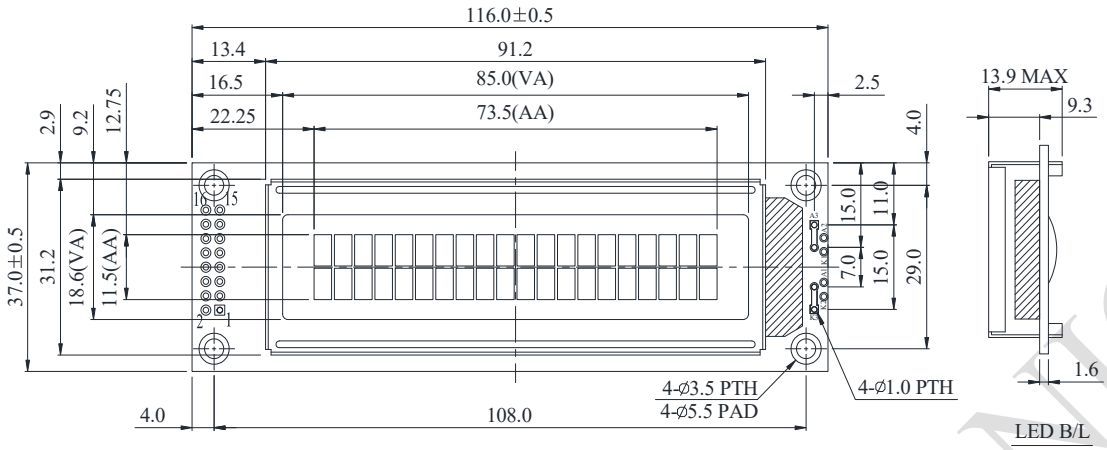
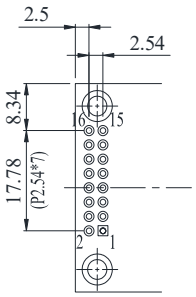
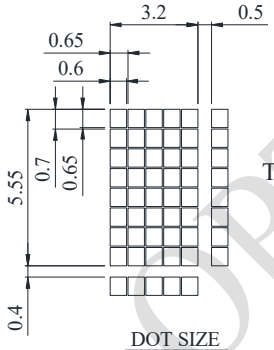
# Contour Drawing




| PIN NO. | SYMBOL |
|---|---|
| 1 | Vss |
| 2 | Vdd |
| 3 | Vo |
| 4 | RS |
| 5 | R/$\overline{W}$ |
| 6 | E |
| 7 | DB0 |
| 8 | DB1 |
| 9 | DB2 |
| 10 | DB3 |
| 11 | DB4 |
| 12 | DB5 |
| 13 | DB6 |
| 14 | DB7 |
| 15 | A |
| 16 | K |




PIN DETAIL




DOT SIZE
SCALE 5/1

The non-specified tolerance of dimension is ±0.3mm.

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# Absolute Maximum Ratings

| Item | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Operating Temperature | $T_{OP}$ | -20 | — | +70 | ℃ |
| Storage Temperature | $T_{ST}$ | -30 | — | +80 | ℃ |
| Input Voltage | $V_I$ | $V_{SS}$ | — | $V_{DD}$ | V |
| Supply Voltage For Logic | $V_{DD}$-$V_{SS}$ | -0.3 | — | 7 | V |
| Supply Voltage For LCD | $V_{DD}$-$V_o$ | -0.3 | — | 13 | 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 | $V_{DD}$-$V_0$ | Ta=-20℃ | — | — | 5.7 | V |
| | | Ta=25℃ | 4.2 | 4.35 | 4.5 | V |
| | | Ta=70℃ | 3.8 | — | — | V |
| Input High Volt | $V_{IH}$ | — | 0.7 $V_{DD}$ | — | $V_{DD}$ | V |
| Input Low Volt | $V_{IL}$ | — | Vss | — | 0.6 | V |
| Output High Volt | $V_{OH}$ | — | 3.9 | — | $V_{DD}$ | V |
| Output Low Volt | $V_{OL}$ | — | 0 | — | 0.4 | V |
| Supply Current | $I_{DD}$ | $V_{DD}$=5.0V | 1.0 | 1.2 | 1.5 | mA |

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