



RAYSTAR

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RC1602G1 SPECIFICATION

General Specification

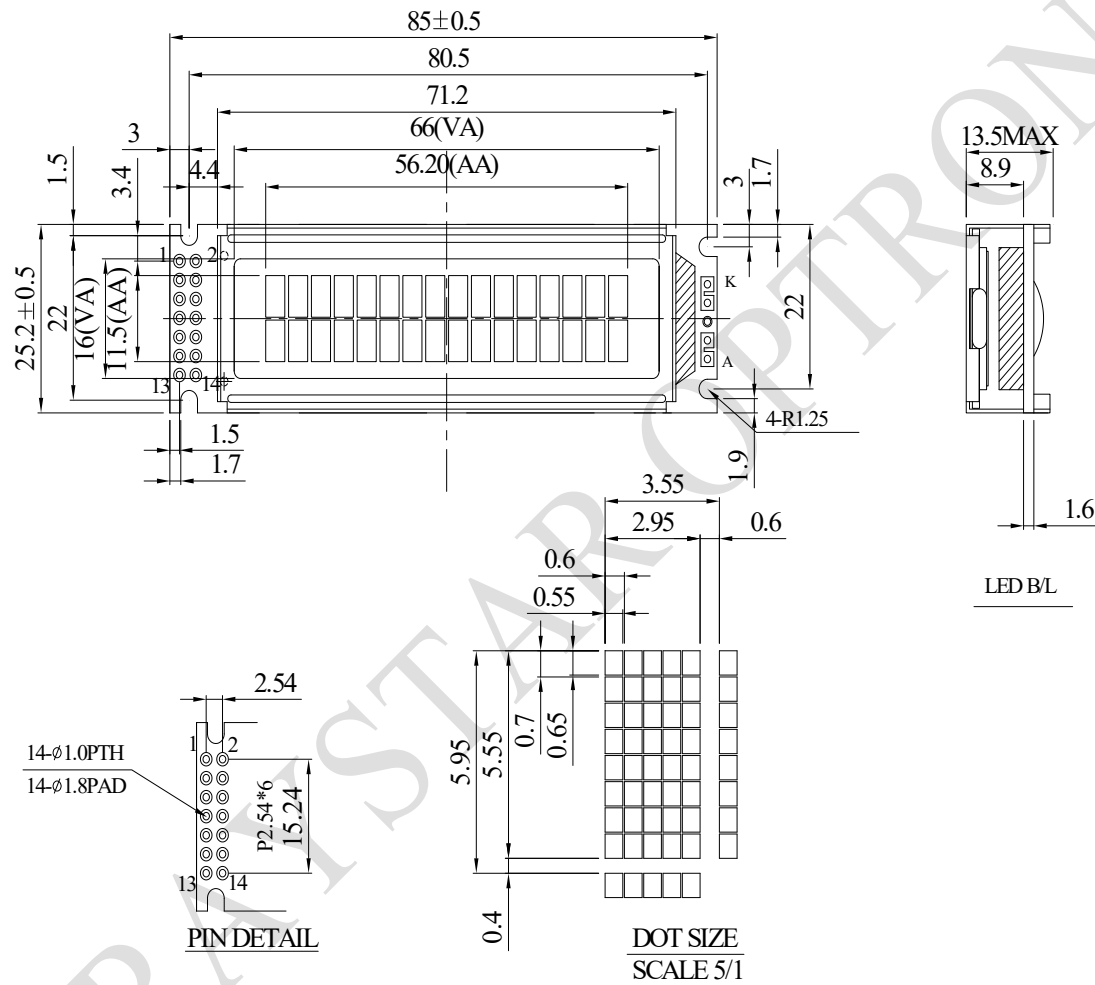
The Features is described as follow :

- Module dimension : 85.0 x 25.2 x 13.5 (max.) mm
- View area : 66.0 x 16.0 mm
- Active area : 56.2x 11.5 mm
- Number of Characters : 16 characters x 2 Lines
- Dot size : 0.55 x 0.65 mm
- Dot pitch : 0.60 x 0.70 mm
- Character size : 2.95 x 5.55 mm
- Character pitch : 3.55 x 5.95 mm
- Duty: 1/16
- Backlight Type : LED
- IC : ST7066U
- Interface : 68 series

Interface Pin Function

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

Contour Drawing & Block Diagram



| PIN NO. | SYMBOL |
|---------|--------|
| 1 | DB7 |
| 2 | DB6 |
| 3 | DB5 |
| 4 | DB4 |
| 5 | DB3 |
| 6 | DB2 |
| 7 | DB1 |
| 8 | DB0 |
| 9 | E |
| 10 | R/W |
| 11 | RS |
| 12 | VO |
| 13 | VSS |
| 14 | VDD |

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

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_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 | $V_{DD}-V_o$ | $T_a=-20^{\circ}\text{C}$ | — | — | 5.2 | V |
| | | $T_a=25^{\circ}\text{C}$ | 3.6 | 3.7 | 3.8 | V |
| | | $T_a=70^{\circ}\text{C}$ | 3.2 | — | — | V |
| Input High Volt. | V_{IH} | — | 0.7 V_{DD} | — | V_{DD} | V |
| Input Low Volt. | V_{IL} | — | V_{SS} | — | 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} | $V_{DD}=5.0\text{V}$ | 1.0 | 1.2 | 1.5 | mA |