



RAYSTAR

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RG16032A

General Specifications

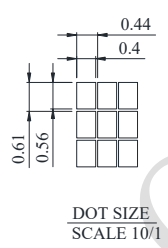
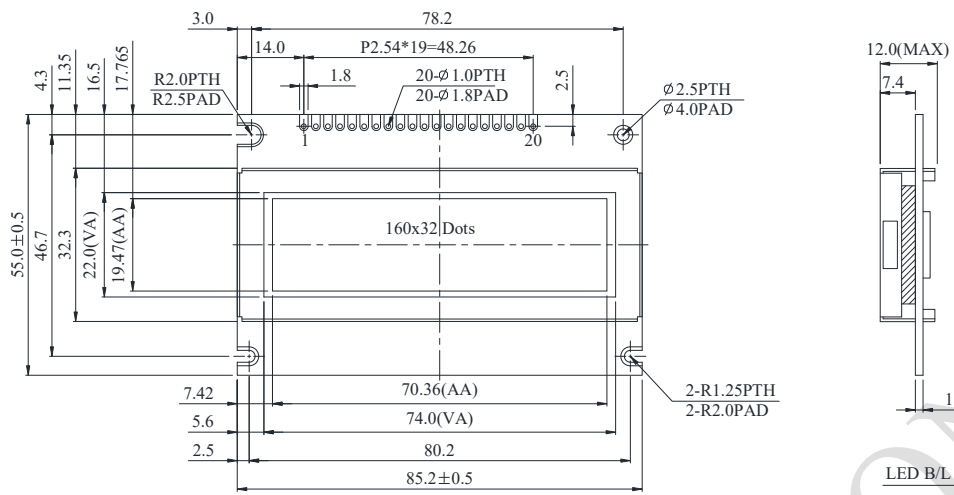
The Features of the Module is description as follow:

- Module dimension: 85.2 x 55.0 x 12.0 (max.) mm
- View area: 74.0 x 22.0 mm
- Active area: 70.36 x 19.47 mm
- Number of Dots: 160 x 32
- Dot size: 0.40 x 0.56 mm
- Dot pitch: 0.44 x 0.61 mm
- Duty: 1/32
- Backlight Type: LED
- IC:SBN1661G

Interface Pin Function

| Pin No. | Symbol | Level | Description |
|---------|-----------------|------------|---|
| 1 | V _{SS} | 0V | Ground |
| 2 | V _{DD} | 5.0V | Power supply for logic |
| 3 | V _o | (Variable) | Operating voltage for LCD |
| 4 | A0 | H/L | H : Data L : Instruction |
| 5 | CS1 | H/L | Cs1=0 cs2=0 chip select signal for s1~s61 |
| 6 | CS2 | H/L | Cs1=0 cs2=1 chip select signal for s62~s141 Cs1=1 cs2=0 chip select signal for s142~s168 |
| 7 | CL | - | Clock 2KHz |
| 8 | E | H,H→L | Chip Enable signal |
| 9 | R/W | H/L | H : Read ; L : Write |
| 10 | DB0 | H/L | Data bus line |
| 11 | DB1 | H/L | Data bus line |
| 12 | DB2 | H/L | Data bus line |
| 13 | DB3 | H/L | Data bus line |
| 14 | DB4 | H/L | Data bus line |
| 15 | DB5 | H/L | Data bus line |
| 16 | DB6 | H/L | Data bus line |
| 17 | DB7 | H/L | Data bus line |
| 18 | RST | H/L | H -> L: The LCM be reset |
| 19 | A | - | Power supply for B/L + |
| 20 | K | - | Power supply for B/L - |

Contour Drawing



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

| PIN NO. | SYMBOL |
|---------|--------|
| 1 | Vss |
| 2 | Vdd |
| 3 | Vo |
| 4 | A0 |
| 5 | CS1 |
| 6 | CS2 |
| 7 | CL |
| 8 | E |
| 9 | R/W |
| 10 | DB0 |
| 11 | DB1 |
| 12 | DB2 |
| 13 | DB3 |
| 14 | DB4 |
| 15 | DB5 |
| 16 | DB6 |
| 17 | DB7 |
| 18 | RST |
| 19 | A |
| 20 | K |

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 | -0.3 | — | $V_{DD}+0.3$ | V |
| Supply Voltage For Logic | $V_{DD}-V_{SS}$ | -0.3 | — | +6.0 | V |
| LCD bias voltage | V_{LCD} | 3.5 | — | 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 | $V_{DD}-V_0$ | $T_a=-20^{\circ}C$ | — | — | — | V |
| | | $T_a=25^{\circ}C$ | 5.3 | 5.5 | 5.7 | V |
| | | $T_a=+70^{\circ}C$ | — | — | — | V |
| Input High Volt. | V_{IH} | $V_{DD}=5.0V$ | 3.0 | 5.0 | $V_{DD}+0.5$ | V |
| Input Low Volt. | V_{IL} | — | 0 | 0.7 | 1.1 | V |
| Output High Volt. | V_{OH} | — | $V_{DD}-0.3$ | — | V_{DD} | V |
| Output Low Volt. | V_{OL} | — | 0 | — | 0.3 | V |
| Supply Current | I_{DD} | $V_{DD}=5.0V$ | — | 5.0 | — | mA |