

ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Min. | Max. | Unit |
|-----------------------|-------------------|------|----------------|------|
| Supply Voltage(Logic) | $V_{DD} - V_{SS}$ | -0.3 | 6.0 | V |
| Supply Voltage(LCD) | $V_{DD} - V_o$ | -0.3 | 13.5 | V |
| Input Voltage | V_i | -0.3 | $V_{DD} + 0.3$ | V |
| Operating Temp. | T_{opr} | -20 | 70 | °C |
| Storage Temp. | T_{stg} | -30 | 80 | °C |

MECHANICAL DATA

| Item | Nominal Dimensions | Unit |
|-------------------------|--------------------|------|
| Module Size (W x H x T) | 98.0 x 60.0 x 13.5 | mm |
| Viewing Area (W x H) | 77.0 x 26.0 | mm |
| Dot Pitch (W x H) | 0.60 x 0.60 | mm |
| Dot Size (W x H) | 0.55 x 0.55 | mm |
| Weight | Approx. 70 | g |

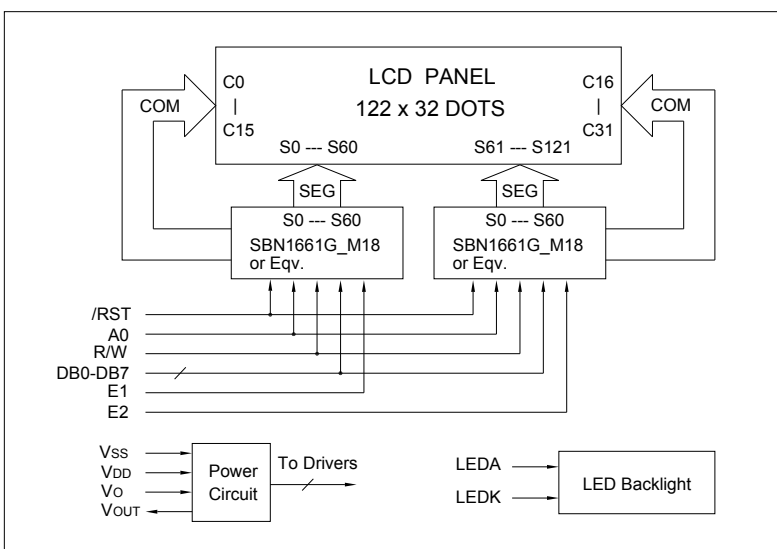
ELECTRICAL CHARACTERISTICS ($V_{DD}=5V \pm 0.5V$)

| Item | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------|----------------|------------------|--------------|------|----------|------|
| Input High Voltage | V_{IH} | -- | 3.0 | -- | V_{DD} | V |
| Input Low Voltage | V_{IL} | -- | 0 | -- | 1.1 | V |
| Output High Voltage | V_{OH} | -- | $V_{DD}-0.3$ | -- | V_{DD} | V |
| Output Low Voltage | V_{OL} | -- | 0 | -- | 0.3 | V |
| Supply Current | I_{DD} | $V_{DD} = 5.0V$ | -- | 2.5 | 3.0 | mA |
| LCD Driving Voltage | $V_{DD} - V_o$ | $T_a=25^\circ C$ | -- | 8.2 | -- | V |

PIN CONNECTIONS

| Pin | Symbol | Level | Function |
|-----|-----------|-------|-----------------------------------|
| 1 | V_{SS} | 0V | GND |
| 2 | V_{DD} | 5V | Power supply for logic |
| 3 | V_o | -- | Operating voltage for LCD |
| 4 | A0 | H/L | H : Data L : Instruction code |
| 5 | R/W | H/L | H : Read L : Write |
| 6 | E1 | H,H>L | Enable signal 1 |
| 7 | E2 | H,H>L | Enable signal 2 |
| 8 | /RST | L>H | Reset signal. Active rising edge. |
| 9 | DB0 | H/L | Data Bus |
| 10 | DB1 | H/L | |
| 11 | DB2 | H/L | |
| 12 | DB3 | H/L | |
| 13 | DB4 | H/L | |
| 14 | DB5 | H/L | |
| 15 | DB6 | H/L | |
| 16 | DB7 | H/L | |
| 17 | NC | -- | No connection |
| 18 | V_{OUT} | -5V | Output voltage for LCD driving |
| 19 | LEDA | 5V | Power supply for LED backlight |
| 20 | LEDK | 0V | |

BLOCK DIAGRAM



LED BACKLIGHT SPECIFICATIONS ($T_a=25^\circ C$)

| Item | Symbol | Typ. | Max. | Unit |
|-----------------|--------|--------------|------|------|
| Forward Voltage | V_f | 2.9 | 3.0 | V |
| Forward Current | I_f | 32 | -- | mA |
| LED Color | | Yellow Green | | |