

ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Min. | Max. | Unit |
|-----------------------|-----------------------------------|------|-----------------------|------|
| Supply Voltage(Logic) | V _{DD} - V _{SS} | -0.3 | 5.25 | V |
| Supply Voltage(LCD) | V _O - V _{SS} | -0.3 | 7.0 | 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) | 116.0 x 36.0 x 10.0/13.5 | mm |
| Viewing Area (W x H) | 83.0 x 18.6 | mm |
| Dot Pitch (W x H) | 0.48 x 0.48 | mm |
| Dot Size(W x H) | 0.44 x 0.44 | mm |
| Weight (Reflective/LED) | Approx. 42/55 | g |

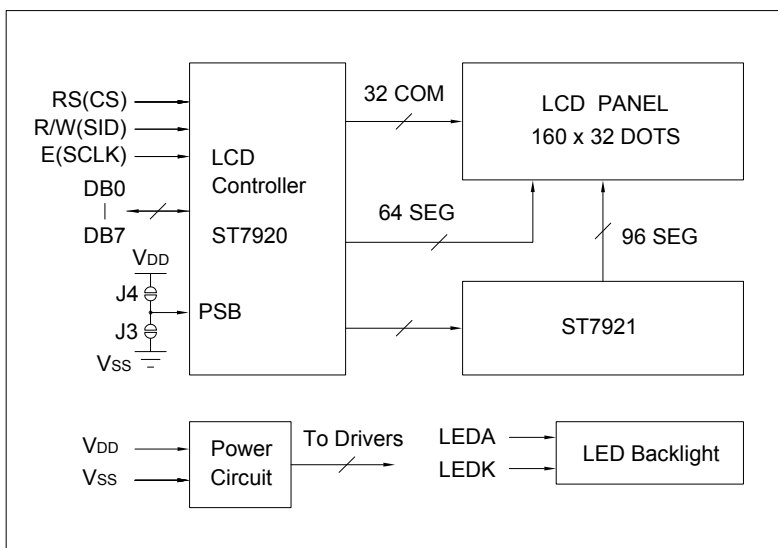
ELECTRICAL CHARACTERISTICS (V_{DD}=5V±0.15V)

| Item | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------|----------------------------------|---------------------------|--------------------|------|-----------------|------|
| Input High Voltage | V _{IH} | -- | 0.7V _{DD} | -- | V _{DD} | V |
| Input Low Voltage | V _{IL} | -- | - 0.3 | -- | 0.6 | V |
| Output High Voltage | V _{OH} | I _{OH} = - 0.1mA | 0.8V _{DD} | -- | V _{DD} | V |
| Output Low Voltage | V _{OL} | I _{OL} = 0.1mA | 0 | -- | 0.4 | V |
| Supply Current | I _{DD} | V _{DD} = 5.0V | -- | 2.0 | 4.0 | mA |
| LCD Driving Voltage | V _O - V _{SS} | T _a =25°C | -- | 6.0 | -- | V |

PIN CONNECTIONS

| Pin | Symbol | Level | Function |
|-----|-----------------|--------|---|
| 1 | V _{SS} | 0V | GND |
| 2 | V _{DD} | +5V | Power supply for logic |
| 3 | NC | -- | No connection |
| 4 | RS (CS) | H/L | H : Data L : Instruction Code (Chip enable for serial mode) |
| 5 | R/W (SID) | H/L | H : Read L : Write (Serial data for serial mode) |
| 6 | E (SCLK) | H, H→L | Enable signal (Serial clock for serial mode) |
| 7 | DB0 | H/L | Data bus PSB=H: Parallel mode PSB=L: Serial mode |
| 8 | DB1 | H/L | |
| 9 | DB2 | H/L | |
| 10 | DB3 | H/L | |
| 11 | DB4 | H/L | |
| 12 | DB5 | H/L | |
| 13 | DB6 | H/L | |
| 14 | DB7 | H/L | |
| 15 | LEDA | +5V | Power supply for LED backlight |
| 16 | LEDK | 0V | |

BLOCK DIAGRAM



LED BACKLIGHT SPECIFICATIONS (T_a=25°C)

| Item | Symbol | Typ. | Max. | Unit |
|----------------------|----------------|------|------|------|
| Forward Voltage | V _f | 4.1 | 4.3 | V |
| Forward Current | I _f | 210 | -- | mA |
| Emission Wave Length | λ _p | 568 | -- | nm |