

## ABSOLUTE MAXIMUM RATINGS

| Item                    | Symbol                            | Min. | Max.                  | Unit |
|-------------------------|-----------------------------------|------|-----------------------|------|
| Supply Voltage(L logic) | V <sub>DD</sub> - V <sub>SS</sub> | -0.3 | 5.25                  | V    |
| Supply Voltage(LCD)     | V <sub>O</sub> - V <sub>SS</sub>  | -0.3 | 7.0                   | V    |
| Input Voltage           | V <sub>I</sub>                    | -0.3 | V <sub>DD</sub> + 0.3 | V    |
| Operating Temp.         | T <sub>opr</sub>                  | -20  | 70                    | °C   |
| Storage Temp.           | T <sub>stg</sub>                  | -30  | 80                    | °C   |

## MECHANICAL DATA

| Item                      | Nominal Dimensions | Unit |
|---------------------------|--------------------|------|
| Module Size ( W x H x T ) | 74.0 x 27.4 x 13.5 | mm   |
| Viewing Area ( W x H )    | 60.5 x 18.5        | mm   |
| Dot Pitch ( W x H )       | 0.44 x 0.49        | mm   |
| Dot Size ( W x H )        | 0.40 x 0.45        | mm   |
| Weight                    | Approx. 30         | g    |

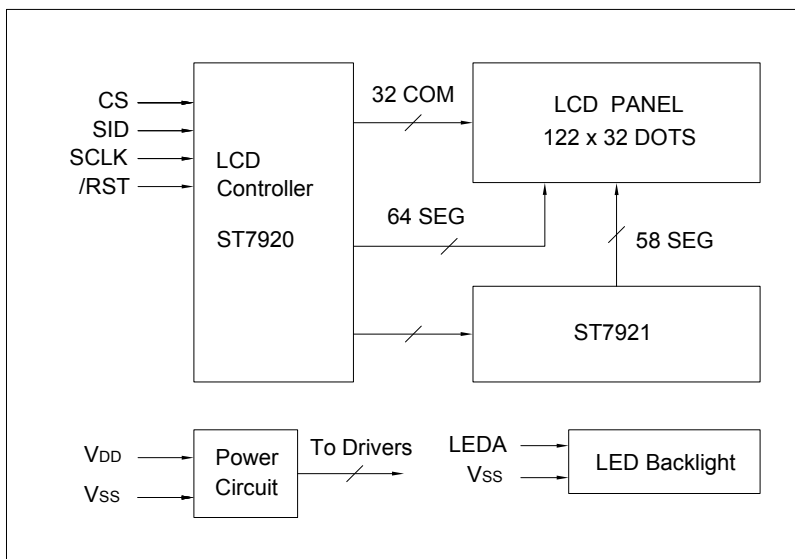
## ELECTRICAL CHARACTERISTICS ( V<sub>DD</sub>=5V±0.15V )

| Item                | Symbol                           | Test Condition           | Min.               | Typ. | Max.               | Unit |
|---------------------|----------------------------------|--------------------------|--------------------|------|--------------------|------|
| Input High Voltage  | V <sub>IH</sub>                  | --                       | 0.7V <sub>DD</sub> | --   | V <sub>DD</sub>    | V    |
| Input Low Voltage   | V <sub>IL</sub>                  | --                       | -0.3               | --   | 0.6                | V    |
| Output High Voltage | V <sub>OH</sub>                  | I <sub>OH</sub> = -0.1mA | 0.8V <sub>DD</sub> | --   | V <sub>DD</sub>    | V    |
| Output Low Voltage  | V <sub>OL</sub>                  | I <sub>OL</sub> = 0.1mA  | --                 | --   | 0.1V <sub>DD</sub> | V    |
| Supply Current      | I <sub>DD</sub>                  | V <sub>DD</sub> = 5.0V   | --                 | 3.0  | 5.0                | mA   |
| LCD Driving Voltage | V <sub>O</sub> - V <sub>SS</sub> | T <sub>a</sub> =25°C     | --                 | 6.5  | --                 | V    |

## PIN CONNECTIONS (CN1/CN2)

| Pin | Symbol          | Level | Function                        |
|-----|-----------------|-------|---------------------------------|
| 1   | V <sub>SS</sub> | 0V    | GND                             |
| 2   | V <sub>DD</sub> | +5V   | Power supply for logic          |
| 3   | CS              | H/L   | Chip enable signal. Active "H". |
| 4   | SID             | H/L   | Serial data input               |
| 5   | SCLK            | H/L   | Serial clock input              |
| 6   | /RST            | L     | Reset signal. Active "L".       |
| 7   | LEDA            | +5V   | Power supply for LED backlight  |
| 8   | NC              | --    | No connection                   |

## BLOCK DIAGRAM



### Notes:

1. LEDK is connected to V<sub>SS</sub> on PCB
2. Pin 8 is only available for CN2.

## LED BACKLIGHT SPECIFICATIONS (T<sub>a</sub>=25°C)

| Item            | Symbol         | Typ.  | Max. | Unit |
|-----------------|----------------|-------|------|------|
| Forward Voltage | V <sub>f</sub> | 2.9   | 3.1  | V    |
| Forward Current | I <sub>f</sub> | 18    | --   | mA   |
| LED Color       |                | White |      |      |