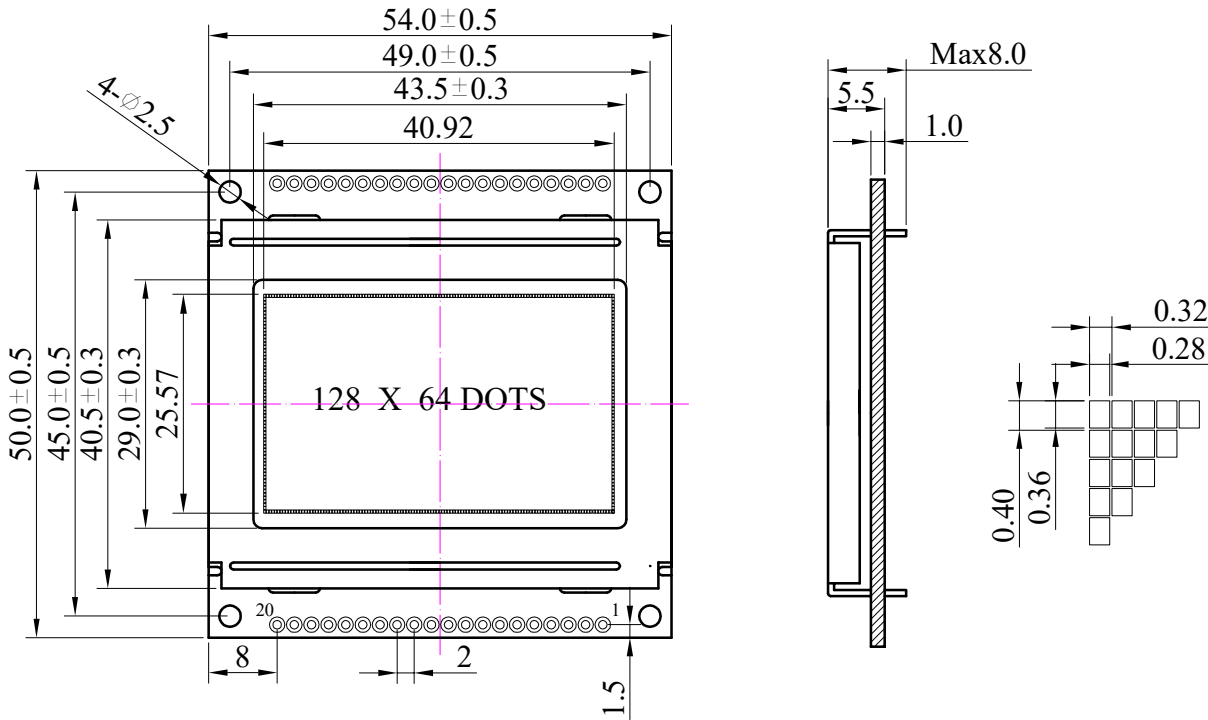




ABSOLUTE MAXIMUM RATINGS

| Item                  | Symbol    | Min. | Max.      | Unit |
|-----------------------|-----------|------|-----------|------|
| Supply Voltage(Logic) | Vdd - Vss | -0.3 | 7.0       | V    |
| Supply Voltage(LCD)   | Vdd - V0  | -0.3 | 25.0      | V    |
| Input Voltage         | Vi        | -0.3 | Vdd + 0.3 | V    |
| Operating Temp.       | Topr      | -20  | 70        | °C   |
| Storage Temp.         | Tstg      | -30  | 80        | °C   |

MECHANICAL DATA

| Item                    | Max.              | Unit |
|-------------------------|-------------------|------|
| Module Size (W X H X T) | 54.0 X 50.0 X 8.0 | mm   |
| Viewing Area(W X H)     | 43.5 X 29.0       | mm   |
| Dot Pitch(W X H)        | 0.28 X 0.36       | mm   |
| Dot Size(W X H)         | 0.32 X 0.40       | mm   |
| View Angle              | 6 or 12 O'Clock   |      |

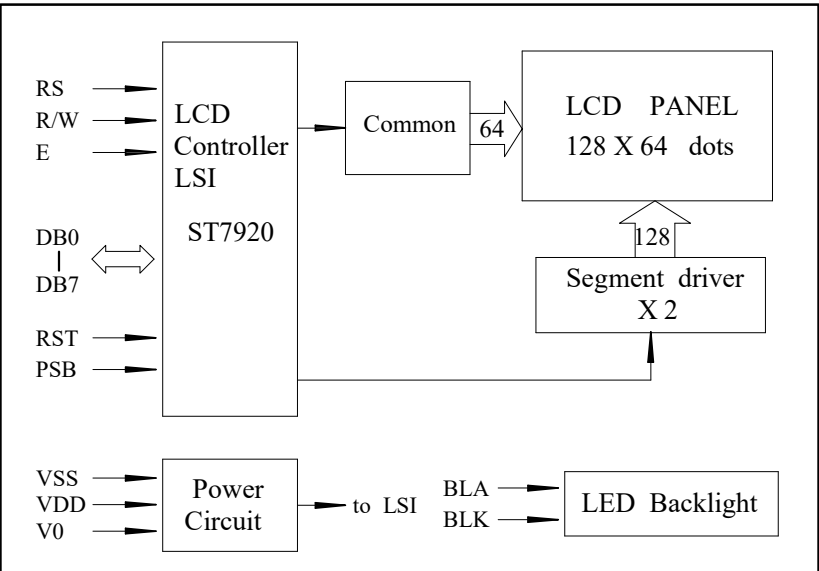
ELECTRICAL CHARACTERISTICS (Vdd=5V±0.25V)

| Item                | Symbol   | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------|----------|----------------|------|------|------|------|
| Input High Voltage  | Vih      | --             | 2.0  | --   | Vdd  | V    |
| Input Low Voltage   | Vil      | --             | -0.3 | --   | 0.8  | V    |
| Output High Voltage | Voh      | Ioh=-0.2mA     | 2.4  | --   | Vdd  | V    |
| Output Low Voltage  | Vol      | Iol=-1.6mA     | 0    | --   | 0.4  | V    |
| Supply Current      | Idd      | Vdd=5.0V       | --   | 6.0  | 8.0  | mA   |
| LCD Driving Voltage | Vdd - V0 | Ta=25 °C       | --   | 4.7  | --   | V    |

PIN CONNECTIONS

| Pin | Symbol   | Level | Function                       |
|-----|----------|-------|--------------------------------|
| 1   | VSS      | 0V    | Power GND                      |
| 2   | VDD      | +5V   | Power supply for logic         |
| 3   | NC       | --    | No connection                  |
| 4   | RS(CS)   | H/L   | H:Data L:Instruction code      |
| 5   | R/W(SID) | H/L   | H:Read L:Write                 |
| 6   | E(SCLK)  | H/L   | Enable signal                  |
| 7   | DB0      | H/L   | Data bus line                  |
| 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  | PSB      | H/L   | H:Paraller mode L: Serial mode |
| 16  | NC       | --    | No connection                  |
| 17  | RST      | L     | Reset signal, active"L"        |
| 18  | NC       | --    | No connection                  |
| 19  | BLA      | +5V   | Power supply for LED backlight |
| 20  | BLK      | 0V    |                                |

BLOCK DIAGRAM



LCD Type

| LCD Color | Backlight |
|-----------|-----------|
|           |           |
|           |           |
|           |           |