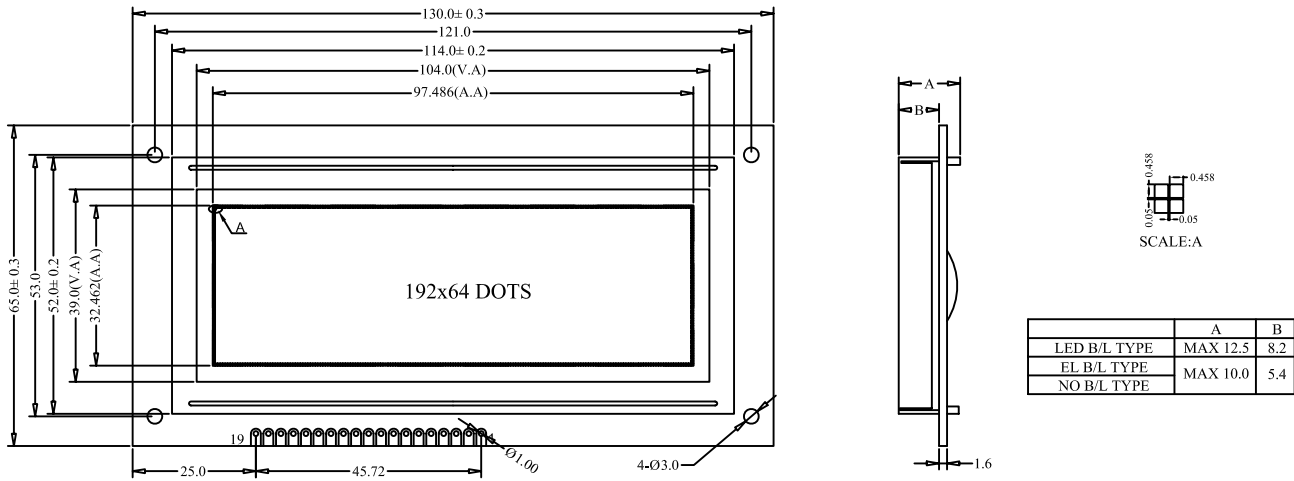


1. DIMENSION OUTLINE



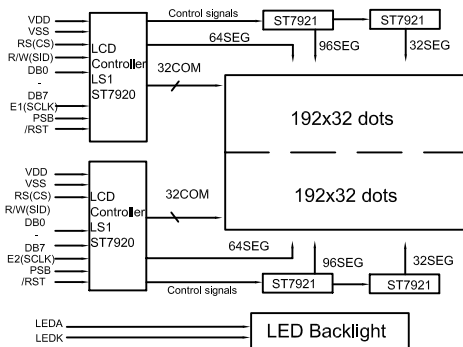
2. MECHANICAL SPECIFICATIONS

| ITEM | SPECIFICATIONS | ITEM | REMARK |
|-------------------------|-----------------|------|-------------------------------|
| Module Size(L×W×H) | 130.0×65.0×12.5 | mm | Reference Dimensional Outline |
| View Area(W×H) | 104.0×39.0 | mm | |
| Effective V/Area | 97.486×32.462 | mm | |
| Number of Characters | 192×64 | - | |
| Dot Pitch(W×H) | 0.508×0.508 | mm | |
| Dot Size(W×H) | 0.458×0.458 | mm | |
| Weight (Reflective/Led) | - | g | |

3. ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | CONDITION | STANDARD | |
|-----------------------|------------------|-----------|----------|-----------------------|
| | | | MIN | MAX |
| Logic Voltage | V _{DD} | Ta=25°C | -0.3V | 7V |
| LCD Voltage | V _{LCD} | | -0.3V | 17.5V |
| Input Voltage | V _I | | -0.3V | V _{DD} +0.3V |
| Operation Temperature | T _{OP} | — | -20°C | 70°C |
| Storage Temperature | T _{St} | — | -30°C | 80°C |

4. BLOCK DIAGRAMMECHANICAL



5. LED BACKLIGHT SPECIFICATIONS

| ITEM | SYMBOL | TYPE | MAX | UNIT |
|----------------------|----------------|------|-----|------|
| Ta=25°C | | | | |
| Forward Voltage | V _f | 2.9 | 3.0 | V |
| Forward Current | I _f | 60 | — | mA |
| Emission Wave Length | λ _P | 571 | — | nm |

6. INTERFACE PIN CONNECTIONS

| ITEM | SYMBOL | LEVEL | FUNCTIONS |
|------|-----------|-------|--------------------------------|
| 1 | VSS | 0V | Power Ground |
| 2 | VDD | +5V | Power supply for logic |
| 3 | V0 | — | Contrast adjust |
| 4 | /RST | L | Reset signal |
| 5 | RS(CS) | H/L | H:data L:command |
| 6 | RW/(SID) | H/L | H:read L:write |
| 7 | E1/(SCLK) | H.H→L | Enable signal |
| 8 | E2/(SCLK) | H.H→L | Enable signal |
| 9-16 | DB0-DB7 | H/L | Data Bus |
| 17 | PSB | H/L | H:Paraller mode L:serial mode |
| 18 | LEDA | +5V | Power supply for LED backlight |
| 19 | LEDK | 0V | |

7. ELECTRICAL CHARACTERISTICS

| ITEM | SYMBOL | MIN | TYPE | MAX | UNIT |
|---------------------------|--------------------|--------------------|------|-----------------|------|
| Ta=25°C | | | | | |
| Logic Power | V _{DD} | 4.5 | 5 | 5.5 | V |
| Input High Voltage | V _{IH} | 0.8V _{DD} | — | V _{DD} | V |
| Input Low Voltage | V _{IL} | VSS | — | 0.8 | V |
| Output High Voltage | V _{OH} | 2.4 | — | — | V |
| Output Low Voltage | V _{OL} | 0 | — | 0.4 | V |
| Logic Current | I _{DD} | — | 6 | 8 | mA |
| Operation Voltage For LCD | V _{DD-V0} | — | 12 | — | V |