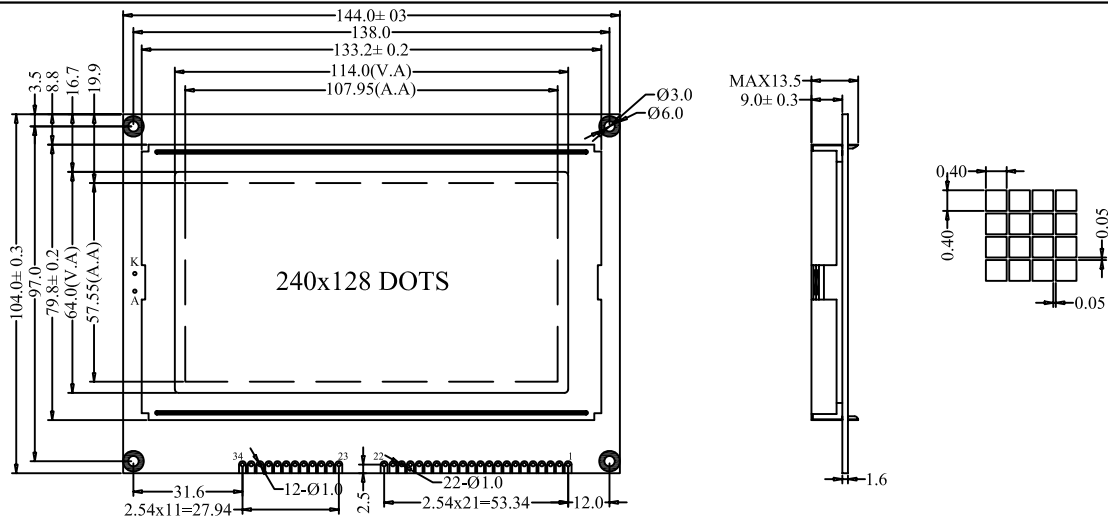


1. DIMENSION OUTLINE



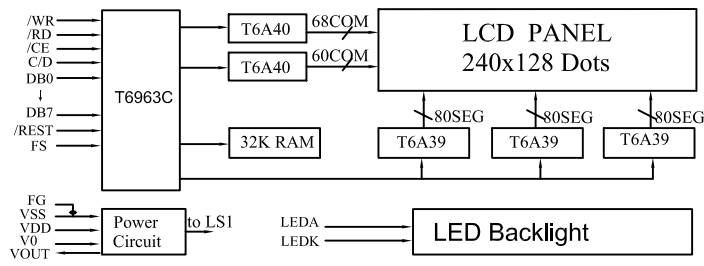
2. MECHANICAL SPECIFICATIONS

| ITEM | SPECIFICATIONS | ITEM | REMARK |
|-------------------------|------------------|------|-------------------------------|
| Module Size(L×W×H) | 144.0×104.0×14.0 | mm | Reference Dimensional Outline |
| View Area(W×H) | 114.0×64.0 | mm | |
| Effective V/Area | 107.95×57.55 | mm | |
| Number of Characters | 240×128 | - | |
| Dot Pitch(W×H) | 0.45×0.45 | mm | |
| Dot Size(W×H) | 0.40×0.40 | mm | |
| Weight (Reflective/Led) | - | g | |

3. ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | CONDITION | STANDARD | |
|-----------------------|------------------|----------------------|----------|-----------------------|
| | | | MIN | MAX |
| Logic Voltage | V _{DD} | T _a =25°C | -0.3V | 7V |
| LCD Voltage | V _{LCD} | | -0.3V | 25V |
| 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 DIAGRAM MECHANICAL



6. INTERFACE PIN CONNECTIONS

| ITEM | SYMBOL | LEVEL | FUNCTIONS |
|-------|--------|-------|-----------------------------------|
| 1 | FG | — | Frame Ground |
| 2 | VSS | 0V | Power Ground |
| 3 | VDD | +5V | Power supply for logic |
| 4 | V0 | — | Contrast adjust |
| 5 | /WR | L | Write signal |
| 6 | /RD | L | Read signal |
| 7 | /CE | L | Chip enable signal |
| 8 | C/D | H/L | H:command L:data |
| 9 | NC | — | No connection |
| 10 | /RES | L | Reset signal |
| 11-18 | D0-D7 | H/L | Data Bus |
| 19 | FS | H/L | Font selection L:8x8 H:6x8 |
| 20 | VOUT | — | Output voltage for LCD Driving |
| 21 | LEDA | +5V | Power supply for LED Backlight |
| 22 | LEDK | 0V | |
| 23 | ED | H/L | Display Data Input |
| 24 | CDATA | H/L | Synchronous Signal For Row Driver |
| 25 | FR | — | Frame Signal |
| 26 | LP | H/L | Latch Pulse |
| 27 | HSCP | H/L | Shift Clock Pulse |
| 28 | NC | — | No connection |
| 29 | VDD | +5V | Power supply for logic |
| 30 | VSS | 0V | Power Ground |
| 31 | V0 | — | Contrast adjust |
| 32 | VOUT | — | Output voltage for LCD Driving |
| 33 | BLA | +5V | Power supply for LED Backlight |
| 34 | BLK | 0V | |

5. LED BACKLIGHT SPECIFICATIONS

| ITEM | SYMBOL | TYPE | MAX | UNIT |
|----------------------|----------------|------|------|------|
| T _a =25°C | | | | |
| Forward Voltage | V _f | 4.05 | 4.25 | V |
| Forward Current | I _f | 720 | — | mA |
| Emission Wave Length | λ _p | 568 | — | nm |

7. ELECTRICAL CHARACTERISTICS

| ITEM | SYMBOL | MIN | TYPE | MAX | UNIT |
|---------------------------|---------------------|----------------------|------|-----------------|------|
| T _a =25°C | | | | | |
| Logic Power | V _{DD} | 4.5 | 5 | 5.5 | V |
| Input High Voltage | V _{IH} | V _{DD} -2.2 | — | V _{DD} | V |
| Input Low Voltage | V _{IL} | 0 | — | 0.8 | V |
| Output High Voltage | V _{OH} | V _{DD} -0.3 | — | V _{DD} | V |
| Output Low Voltage | V _{OL} | 0 | — | 0.3 | V |
| Logic Current | I _{DD} | — | 15 | 25 | mA |
| Operation Voltage For LCD | V _{DD} -V0 | — | 18 | — | V |