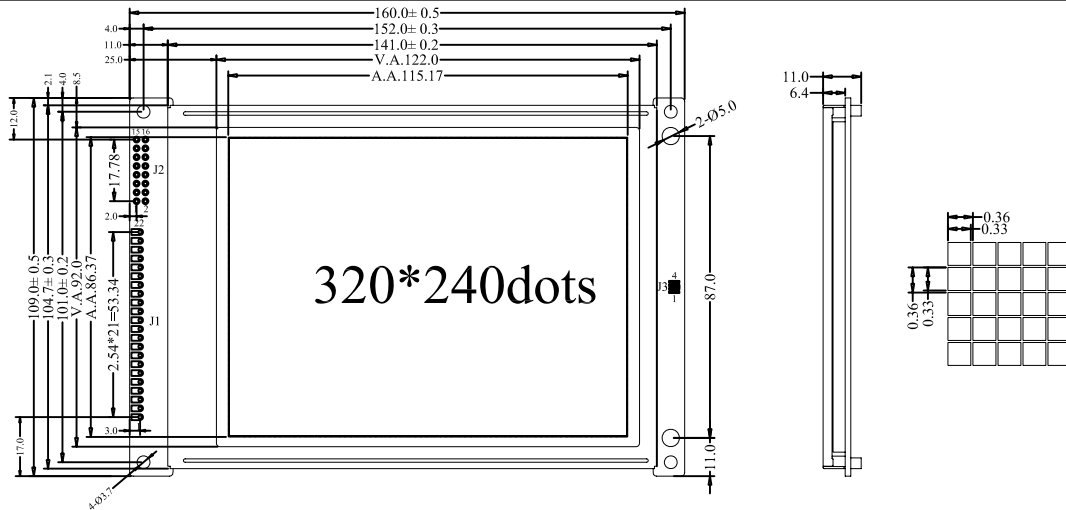


1. DIMENSION OUTLINE



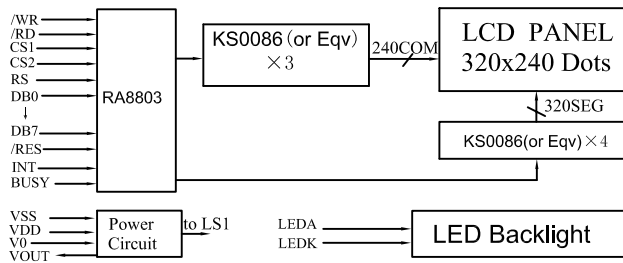
2. MECHANICAL SPECIFICATIONS

| ITEM | SPECIFICATIONS | ITEM | REMARK |
|-------------------------|------------------|------|-------------------------------|
| Module Size(L×W×H) | 160.0×109.0×11.0 | mm | Reference Dimensional Outline |
| View Area(W×H) | 122.0×92.0 | mm | |
| Effective V/Area | 115.17×86.37 | mm | |
| Number of Characters | 320×240 | - | |
| Dot Pitch(W×H) | 0.36×0.36 | mm | |
| Dot Size(W×H) | 0.33×0.33 | 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 | 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 DIAGRAMMECHANICAL



5. LED BACKLIGHT SPECIFICATIONS

| ITEM | SYMBOL | TYPE | MAX | UNIT |
|----------------------|----------------|-------|-----|------|
| Ta=25°C | | | | |
| Forward Voltage | V _f | 3.0 | 3.1 | V |
| Forward Current | I _f | 150 | — | mA |
| Emission Vave Length | λ _P | white | — | nm |

7. INTERFACE PIN CONNECTIONS (J1)

| ITEM | SYMBOL | LEVEL | FUNCTIONS |
|-------|---------|-------|---------------------------------------|
| 1 | VSS | 0V | Power Ground |
| 2 | VDD | +5V | Power supply for logic |
| 3 | V0 | — | Contrast adjust |
| 4 | RS | H/L | H:data L:command |
| 5 | /WR | L | Write signal |
| 6 | /RD | L | Read signal |
| 7 | /CS1 | L | When /CS1=L,CS2=H, RA8803 is selected |
| 8 | CS2 | H | |
| 9 | BUSY | H/L | Busy signal |
| 10 | INT | H/L | halt signal |
| 11 | /REST | L | Reset signal |
| 12-19 | DB0-DB7 | H/L | Data Bus |
| 20 | VOUT | — | Output voltage for LCD driving |
| 21 | LEDA | +5V | Power supply for LED backlight |
| 22 | LEDK | 0V | |

6. 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} | 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} | — | — | 120 | mA |
| Operation Voltage For LCD | V _{DD} -V ₀ | — | 21.5 | — | V |

8. KEYPAD INTERFACE (J2)

| ITEM | SYMBOL | FUNCTIONS |
|---------------------|---------|----------------|
| 1,3,5,7,9,11,13,15 | KR0-KR7 | Keypad inputs |
| 2,4,6,8,10,12,14,16 | KC0-KC7 | Keypad outputs |