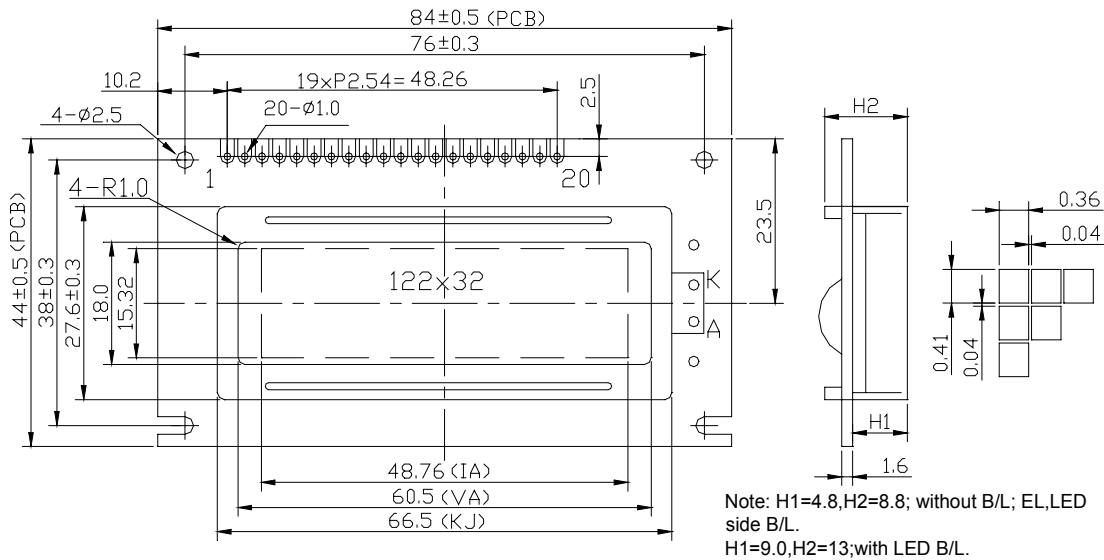


DG12232A2 (EXTERNAL CLOCK)

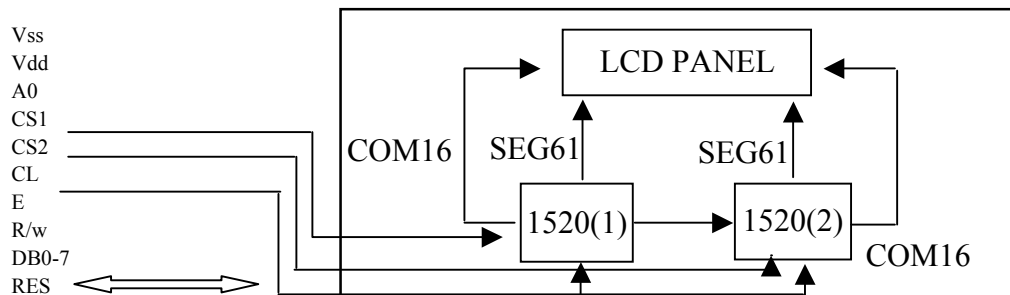
1. External Dimension



2. Pin Table

| | | | | | | | | | | | | | |
|-----|-----|----|----|-----|-----|----|---|-----|-----|-----|-----|------|------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 17 | 18 | 19 | 20 |
| Vss | Vdd | V0 | A0 | CS1 | CS2 | CL | E | R/W | DB0 | DB7 | RES | LED+ | LED- |

3. Block Diagram



4. Electrical Characteristics (Ta=25°C, Vdd=5.0V±0.25V)

| Item | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------------|--------|----------------|--------|------|--------|------|
| Input High Voltage | Vih | - | 0.8Vdd | | Vdd | V |
| Input Low Voltage | Vil | - | 0 | | 0.2Vdd | V |
| Output High Voltage | Voh | -I OH=0.2mA | 2.4 | | | V |
| Output Low Voltage | Vol | I ol=1.2mA | | | 0.4 | V |
| Supply Current | Idd | Vdd=5.0V | | 1.47 | | mA |
| Operating Voltage for LCD | Vdd-V0 | STN | | 5 | | V |
| | | TN | | 5 | | V |