



The tolerance unless classified ± 0.3mm

| MECHANICAL SPECIFICATION |               |          |            |  |  |  |  |  |
|--------------------------|---------------|----------|------------|--|--|--|--|--|
| Overall Size             | 190.0 x 54.0  | Module   | H2 / H1    |  |  |  |  |  |
| View Area                | 147.0 x 29.50 | W /O B/L | 4.5 / 9.1  |  |  |  |  |  |
| Dot Size                 | 0.50 x 0.55   | EL B/L   | 4.5 / 9.1  |  |  |  |  |  |
| Dot Pitch                | 0.57 x 0.62   | LED B/L  | 9.0 / 13.6 |  |  |  |  |  |
|                          |               |          |            |  |  |  |  |  |

| PIN ASSIGNMENT |        |                              |  |  |  |  |
|----------------|--------|------------------------------|--|--|--|--|
| Pin no.        | Symbol | Function                     |  |  |  |  |
| 1              | DB7    | Data bus line                |  |  |  |  |
| 2              | DB6    | Data bus line                |  |  |  |  |
| 3              | DB5    | Data bus line                |  |  |  |  |
| 4              | DB4    | Data bus line                |  |  |  |  |
| 5              | DB3    | Data bus line                |  |  |  |  |
| 6              | DB2    | Data bus line                |  |  |  |  |
| 7              | DB1    | Data bus line                |  |  |  |  |
| 8              | DB0    | Data bus line                |  |  |  |  |
| 9              | E1     | Enable 1                     |  |  |  |  |
| 10             | R/W    | Data read / write            |  |  |  |  |
| 11             | RS     | Register select signal       |  |  |  |  |
| 12             | Vo     | Contrast Adjust              |  |  |  |  |
| 13             | Vss    | Power supply(GND)            |  |  |  |  |
| 14             | Vdd    | Power supply(+)              |  |  |  |  |
| 15             | E2     | Enable 2                     |  |  |  |  |
| 16             | Vee    | Negative voltage             |  |  |  |  |
| 17             | Α      | Power supply for LED B/L (+) |  |  |  |  |
| 18             | K      | Power supply for LED B/L (—) |  |  |  |  |

| ABSOLUTE MAXIMUM RATING          |           |                      |           |       |      |          |         |      |       |  |
|----------------------------------|-----------|----------------------|-----------|-------|------|----------|---------|------|-------|--|
| Item                             | Symbo     | ol Condit            | Condition |       | Min. |          | Max.    |      | Units |  |
| Supply for logic voltage         | Vdd-Vs    | ss 25 <sup>0</sup> 0 | 25°C      |       | -0.3 |          | 7       |      | ٧     |  |
| LCD driving supply voltage       | Vdd-Ve    | ee 25 <sup>0</sup> 0 | 25°C      |       | -0.3 |          | 13      |      | ٧     |  |
| Input voltage                    | Vin       | 25°0                 | 25°C      |       | -0.3 |          | Vdd+0.3 |      | ٧     |  |
| ELECTRICAL CHARACTERISTICS       |           |                      |           |       |      |          |         |      |       |  |
| Item                             | Symbol    | Condition            | N         | /lin. | Турі | cal      | IV      | lax. | Units |  |
| Power supply voltage             | Vdd-Vss   | 25°C                 | 2         | 2.7 - |      |          | 5.      | .5   | V     |  |
|                                  | Vop       | Тор                  | Ν         | W     | N    | W        | Ν       | W    | V     |  |
|                                  |           | -20°C                | _         | 7.1   | -    | 7.5      |         | 7.9  | ٧     |  |
| LCD operation voltage            |           | 0°C                  | 4.8       | _     | 4.8  | _        | 4.9     | X    | V     |  |
| LCD operation voitage            |           | 25°C                 | 4.5       | 6.1   | 4.6  | 6.4      | 4.7     | 6.7  | ٧     |  |
|                                  |           | 50°C                 | 4.4       | -     | 4.5  | <b>?</b> | 4.6     | _    | V     |  |
|                                  |           | 70°C                 | _         | 5.7   | Y    | 6        | _       | 6.3  | V     |  |
| LCM current consumption (No B/L) | ldd       | Vdd=5V               |           | - 4   |      |          | 7       |      | mA    |  |
| Packlight current concumption    | LED/edge  | VB/L=4.2V            | ×         | XO.   |      | -        |         | -    | mA    |  |
| Backlight current consumption    | LED/array | VB/L=4.2V            | 2         | 220   |      | 0        | _       |      | mA    |  |

## REMARK

LCD option: STN, TN, FSTN

Backlight Option: LED,EL Backlight feature, other Specs not available on catalog is under request.