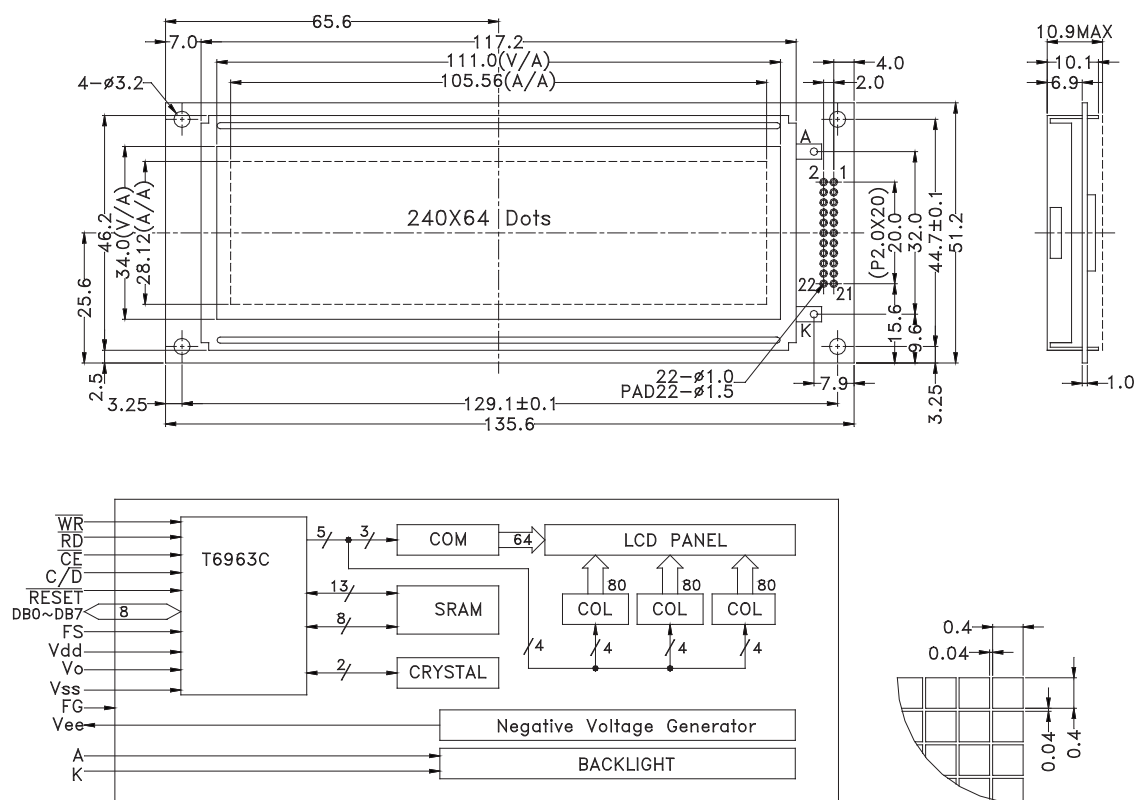




The tolerance unless classified  $\pm 0.3\text{mm}$

SCALE:15/1

### Features:

- Resolution: 240S\*64C Dots
- Duty ratio:1/64
- LCD option: STN, FSTN
- Backlight option(H2/H1mm): None/EL(4.5/8.6), LED(9.2/13.3), CCFL(9.2/13.8)
- N.V. built-in

| Pin Assignment |        |                                |
|----------------|--------|--------------------------------|
| Pin no.        | Symbol | Function                       |
| 1              | FG     | Frame ground                   |
| 2              | VSS    | Signal ground(GND)             |
| 3              | Vdd    | Power supply for logic(+5.0V)  |
| 4              | Vee    | Power supply for LCD drive     |
| 5              | /WR    | Data write                     |
| 6              | /RD    | Date read                      |
| 7              | /CE    | Chip enable for the module     |
| 8              | C/D    | Command/data write             |
| 9              | NC     | No connection                  |
| 10             | /RESET | Controller reset(module reset) |
| 11~18          | D0~D7  | Data bus                       |
| 19             | FS     | Font selection                 |
| 20             | VO     | Operation voltage(LCD driver)  |
| 21             | +VLED  | Power supply for LED B/L(+)    |
| 22             | -VLED  | Power supply for LED B/L(-)    |

| Absolute Maximum Rating          |          |                     |       |       |         |      |       |      |       |
|----------------------------------|----------|---------------------|-------|-------|---------|------|-------|------|-------|
| Item                             | Symbol   | Condition           | Min.  |       | Max.    |      | Units |      |       |
| Supply for logic voltage         | Vdd-Vss  | 25°C                | -0.3  |       | 7.0     |      | V     |      |       |
| LCD driving supply voltage       | Vdd-Vee  | 25°C                | —     |       | 14.0    |      | V     |      |       |
| Input voltage                    | Vin      | 25°C                | -0.3  |       | Vdd+0.3 |      | V     |      |       |
| Electrical Charavteristics       |          |                     |       |       |         |      |       |      |       |
| Item                             | Symbol   | Condition           | Min.  |       | Typical |      | Max.  |      | Units |
| Power supply voltage             | Vdd-Vss  | 25°C                | 4.5   |       | —       |      | 5.5   |      | V     |
| LCD operation voltage            | Vop      | Top                 | N     | W     | N       | W    | N     | W    | V     |
|                                  |          | -20°C               | —     | —     | —       | —    | —     | —    | V     |
|                                  |          | 0°C                 | —     | —     | —       | —    | —     | —    | V     |
|                                  |          | 25°C                | —     | 11.73 | —       | 13.0 | —     | 14.4 | V     |
|                                  |          | 50°C                | —     | —     | —       | —    | —     | —    | V     |
|                                  |          | 70°C                | —     | —     | —       | —    | —     | —    | V     |
| LCM current consumption (No B/L) | Idd      | V <sub>dd</sub> =5V | 10.85 |       | 11.1    |      | 11.48 |      | mA    |
| Backlight current consumption    | LED/edge | VB/L=5V             | —     |       | 125     |      | —     |      | mA    |