

**Excelix DG-24128-06** 240 x 128 dots STN LED Backlight 1/128 Duty,

## MECHANICAL DATA

| Item        | Dimension                     | Unit |
|-------------|-------------------------------|------|
| Module Size | 144.0(W) x 104.0(H) x 15.6(T) | mm   |
| View Area   | 114.0(W) x 64.0(H)            | mm   |
| Dot Size    | 0.4 x 0.4                     | mm   |
| Dot Pitch   | 0.45 x 0.45                   | mm   |

### ABSOLUTELY MAXIMUM RATINGS

| Item                         | Symbol            | Standard Value |      |          | Unit |
|------------------------------|-------------------|----------------|------|----------|------|
|                              |                   | Min            | Typ. | Max.     |      |
| Supply Voltage for Logic     | $V_{DD} - V_{SS}$ | 0              | --   | 7.0      | V    |
| Supply Voltage for LCD Drive | $V_{DD} - V_{EE}$ | 0              | --   | 20.0     | V    |
| Input Voltage                | $V_I$             | $V_{SS}$       | --   | $V_{DD}$ | V    |

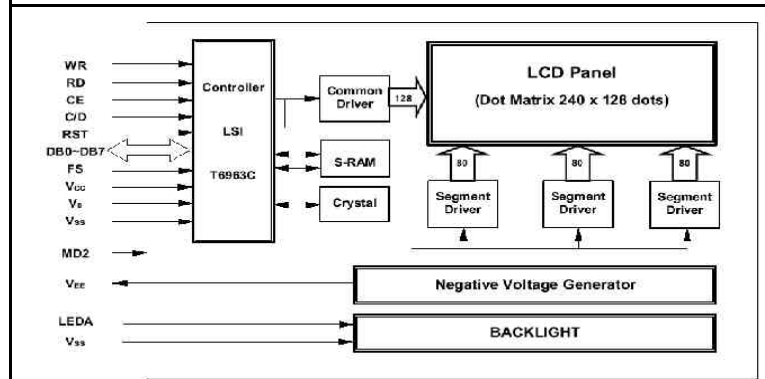
## PIN FUNCTIONS

| Pin No. | Symbol          | Level | Function                          |
|---------|-----------------|-------|-----------------------------------|
| 1       | V <sub>SS</sub> |       | Ground Potential (Logic)          |
| 2       | V <sub>DD</sub> |       | Power Supply for Logic & LCD (+)  |
| 3       | V <sub>EE</sub> |       | Power Supply For LCD              |
| 4       | C/D             |       | Code / Data                       |
| 5       | /RD             |       | Data Read                         |
| 6       | /WR             |       | Data Write                        |
| 7~14    | DB0~DB7         |       | Data Bus Line                     |
| 15      | /CE             |       | Chip Enable                       |
| 16      | /RES            |       | Control Reset                     |
| 17      | VEE             |       | Negative for Selection of Columns |
| 18      | MD2             |       | H=32 L=40                         |
| 19      | FS              |       | H=6x8 L=8x8                       |
| 20      | NC              |       | No Connection                     |

## ELECTRICAL CHARACTERISTICS

| Item                                      | Symbol          | Condition               | Min.                | Typ  | Max.                | Unit |
|-------------------------------------------|-----------------|-------------------------|---------------------|------|---------------------|------|
| Logic Driver Circuit Power Supply Voltage | $V_{DD-V_{SS}}$ | --                      | 4.75                | 5.0  | 5.25                | V    |
| LCD Driver Circuit Power Supply Voltage   | $V_{DD-V_{EE}}$ | 0°C                     | 15.3                | 16.1 | 16.9                | V    |
|                                           |                 | 25°C                    | 14.3                | 15.0 | 15.8                | V    |
|                                           |                 | 50°C                    | 13.1                | 13.8 | 14.5                | V    |
| Input Voltage                             | $V_{IH}$        | $V_{DD} \pm 3 \pm 0.25$ | $0.7 \times V_{DD}$ | --   | $V_{DD}$            | V    |
| Input Voltage                             | $V_{IL}$        | $V_{DD} \pm 5 \pm 0.25$ | 0                   | --   | $0.3 \times V_{DD}$ | V    |
| Output Voltage                            | $V_{OH}$        |                         |                     |      |                     | V    |
| Output Voltage                            | $V_{OL}$        |                         |                     |      |                     |      |
| Input Leakage Current                     | $I_{IJ}$        |                         |                     |      |                     | A    |
| Supply Current                            | $I_{DD}$        | $V_{DD} = 0.5V$         | --                  | 12   | --                  | mA   |
|                                           | $I_{EE}$        | $V_{DD} = 13.0V$        | --                  | --   | TBD                 | mA   |

### BLOCK DIAGRAM



## DIMENSION OUTLINE

