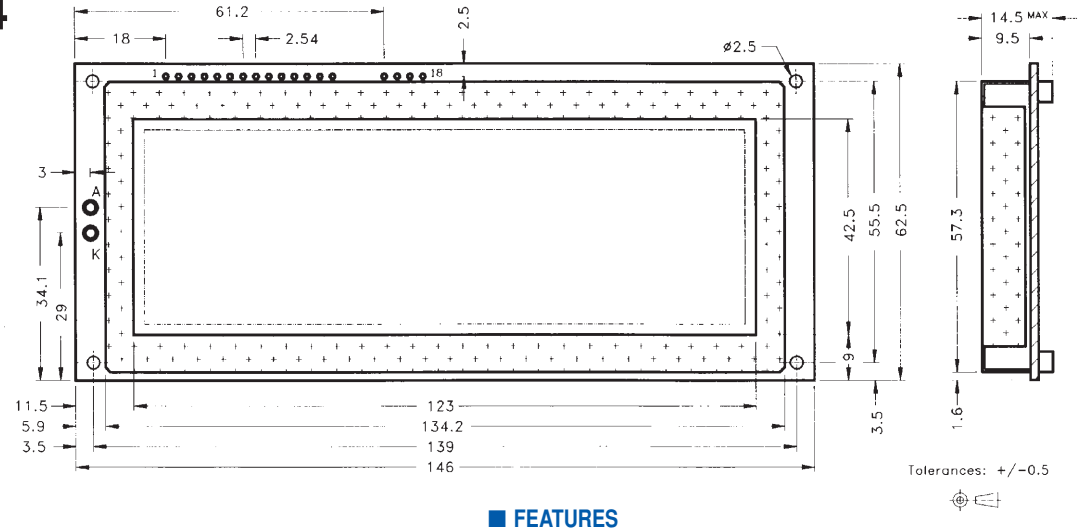
# BT 240064

**240 x 64 DOTS**




**Dimensions [mm]**

## ■ DESCRIPTION

The BT 240064 is a supertwist dot matrix LCD module with graphics capability. The module consists of a newly developed STN type LCD with high contrast, wide viewing angle, CMOS LCD driver, and controller. Since the control LSI has a built-in display data RAM, no external controller is necessary.

## ■ FEATURES

- Single 5V supply
- Built-in display data RAM (32 kB)
- Low power consumption
- Mostly compatible to BT 42008 display/ BT 120032
- Built-in controller SED 1330 (1) PIN TABLE
- High contrast and wide viewing angle
- Low power consumtion
- Light weight / compact dimensions
- Driver HD 66204 (3) / HD 66205 (1)
- INTEL MPU-Interface default

## ■ MECHANICAL DATA

| Parameter | Width x Height x Depth | Unit |
|---|---|---|
| Outline Dimensions | 146 x 62.5 x 11 (with LED: 14.5) | mm |
| Effective viewing area | 117.56 x 38.36 | mm |
| Dot Size | 0.45 x 0.56 | mm |
| Dot Pitch | 0.49 x 0.60 | mm |
| Dot Matrix | 240 x 64 | dots |
| Weight | Approximate 120 (with LED: 150) | g |

## ■ ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Min. | Max. | Unit |
|---|---|---|---|---|
| Supply Voltage (Logic) | $V_{DD}$ ($V_{DD}$-$V_{SS}$) | 0 | 6.5 | V |
| Input Voltage | $V_I$ | $V_{SS}$ | $V_{DD}$ | V |
| Operating Temperature | $T_{OP}$ | See Page 11 | | °C |
| Storage Temperature | $T_{ST}$ | See Page 11 | | °C |

## ■ ELECTRICAL CHARACTERISTICS

Condition: Ta = 25°C, $V_{DD} = 5.0 \pm 0.25$ V

| Parameter | Symbol | Min. | Typ | Max. | Unit |
|---|---|---|---|---|---|
| Input Voltage HIGH | $V_{INH}$ | 2.2 | --- | --- | V |
| Input Voltage LOW | $V_{INL}$ | --- | --- | 0.8 | V |
| Output Voltage HIGH | $V_{OH}$ | 2.4 | ---- | ---- | V |
| Output Voltage LOW | VOL | ---- | ---- | 0.4 | V |
| Supply Current (Logic) | IDD | ---- | 30 | --- | mA |
| Duty Ratio | --- | --- | 1 / 64 | --- | --- |

## ■ LED BACKLIGHT (STANDARD COLOR GREEN)

| Parameter | Symbol | Min. | Typ | Max. | Unit |
|---|---|---|---|---|---|
| Supply Voltage | $V_F$ | 3.8 | 4.0 | 4.2 | V |
| Supply Current | $I_F$[at 25°C] | --- | 540 | 810 | mA |
| Lamp Style | --- | --- | 04 | --- | --- |
| LED Segments | --- | --- | 54 | --- | pcs |

## ■ DISPLAY CONNECTOR

| Pin | Symbol | Signal Description |
|---|---|---|
| 1 | $V_{SS}$ | GND (0V) |
| 2 | $V_{DD}$ | Power Supply (5V) |
| 3 | $V_0$ * | Contrast Voltage Regulation |
| 4 | RS | Register Select<br>$\overline{WR}$ = LOW: RS = LOW: Data write<br>RS = High: Command write<br>$\overline{RD}$ = LOW: RS = LOW: Status flag read<br>RS = HIGH: Data read |
| 5 | $\overline{WR}$ | Write:<br>MPU to LCM |
| 6 | $\overline{RD}$ | Read:<br>LCM to MPU |
| 7 to 14 | $DB_0$ to $DB_7$ | Data Bus |
| 15 | $\overline{CS}$ | Chip Select (Active LOW) |
| 16 | $\overline{RES}$ | Reset (Active LOW) |
| 17 | $V_{EE}$ * | Negative Voltage Output |
| 18 | NC | Not Connected |
| A | $+V_{LED}$ | Anode of LED Unit |
| K | $-V_{LED}$ | Cathode of LED Unit |

* do not connect

## ■ BLOCK DIAGRAM