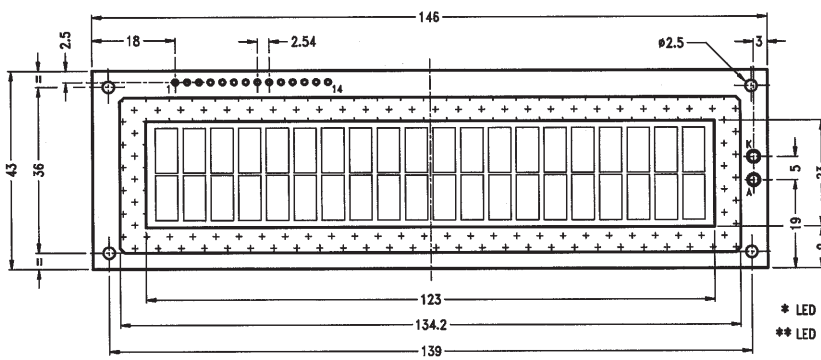


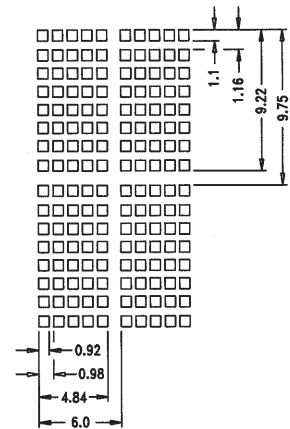
BT 22008

2 Lines x 20 Characters



* LED BACKLIGHT VERSION = 9.5
 ** LED BACKLIGHT VERSION = 14.5 MAX

BT 22008R: A = 1.0
 B = 38.2
 BT 22008V: A = 3.5
 B = 33.7



Tolerances: ±0.5

Dimensions [mm]

MECHANICAL DATA

| Parameter | Width x Height x Depth | Unit |
|------------------------|-------------------------------|------|
| Outline Dimensions | 146 x 43 x 10 (with LED: 14) | mm |
| Effective viewing area | 123 x 23 | mm |
| Dot Size | 0.92 x 1.10 | mm |
| Dot Pitch | 0.98 x 1.16 | mm |
| Character Matrix | 5 x 7 | dots |
| Character Size | 4.84 x 8.06 | mm |
| Character Pitch | 6.0 x 9.75 | mm |
| Weight | Approximate 65 (with LED: 70) | g |

ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Min. | Max. | Unit |
|-----------------------------|--------------------------|-------------|----------|------|
| Supply Voltage (Logic) | $V_{DD} (V_{DD}-V_{SS})$ | 0 | 7.0 | V |
| Supply Voltage (LCD Driver) | $V_{EE} (V_{DD}-V_0)$ | 0 | 13.5 | 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: $T_a = 25^\circ\text{C}$, $V_{DD} = 5.0 \pm 0.25\text{ V}$

| Parameter | Symbol | Min. | Typ | Max. | Unit |
|-----------------------------|-----------|------|--------|------|------|
| Input Voltage HIGH | V_{INH} | 2.2 | --- | --- | V |
| Input Voltage LOW | V_{INL} | --- | --- | 0.6 | V |
| Output Voltage HIGH | V_{OH} | 2.4 | --- | --- | V |
| Output Voltage LOW | V_{OL} | --- | --- | 0.4 | V |
| Supply Current (Logic) | I_{DD} | --- | 1.0 | --- | mA |
| Supply Current (LCD Driver) | I_0 | --- | 0.5 | --- | mA |
| Duty Ratio | --- | --- | 1 / 16 | --- | --- |

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] | --- | 300 | 450 | mA |
| Lamp Style | --- | --- | 04 | --- | --- |
| LED Segments | --- | --- | 30 | --- | pcs |

PIN TABLE

| Pin | Symbol | Signal Description |
|---------|------------------------------------|---|
| 1 | V_{SS} | GND (0 V) |
| 2 | V_{DD} | Power Supply (5 V) |
| 3 | V_0 | Supply Voltage (LCD Driver) |
| 4 | RS | Register Select - LOW = Instruction, High = Data |
| 5 | R / \bar{W} | Read / Write LOW = MPU to LCM, HIGH = LCM to MPU |
| 6 | E | Enable $R / \bar{W} = \text{LOW}$: Data are taking over at falling edge of E $R / \bar{W} = \text{HIGH}$: Data can be read at E = 1 |
| 7 to 14 | DB ₀ to DB ₇ | Data Bus - Software selectable 4 or 8 Bit Mode |
| A | $+V_{LED}$ | Anode of LED Unit |
| K | $-V_{LED}$ | Cathode of LED Unit |

ADDITIONAL INFORMATION

- ◆ Display Connector Type - without LED: 1 x 14 pin
- ◆ Display Connector Type - with LED: See Drawing
- ◆ Controller Type - SPLC 780 (1) or compatible

BLOCK DIAGRAM

