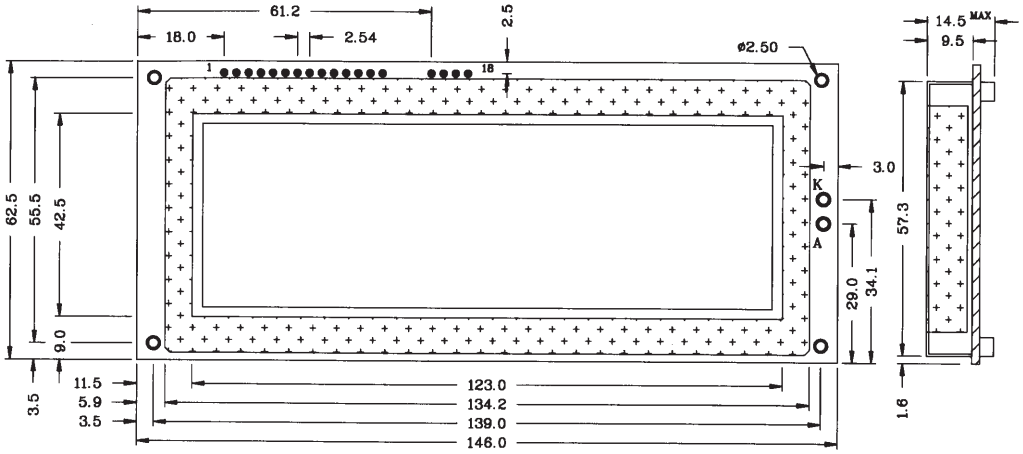
BT 120032

120 x 32 DOTS



Dimensions [mm]

Tolerances: +/−0.5

DESCRIPTION

The BT 120032 is a supertwist dot matrix LCD module with graphic capability. The module consists of a newly developed STN type LCD with high contrast and wide viewing angle and CMOS LCD driver and controller. Since the control LSI has built-in display data RAM no external controller is necessary.

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	118.74 x 38.34	mm
Dot Size	0.93 x 1.14	mm
Dot Pitch	0.99 x 1.20	mm
Dot Matrix	120 x 32	dots
Weight	Approximate 102 (LED: 130)	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 / 32	---	---

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

FEATURES

- Single 5V power supply
- Built-in display data RAM (8kB)
- Mechanically compatible to BT 42008 display
- Built-in Controller SED 1330 (1)
- High contrast and wide viewing angle
- Low power consumption
- Light weight / compact dimensions
- Driver SED 1180F (2), SED 1190F (1)
- Temperature compensable (only AV-Type)

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 R / $\overline{W}$ = LOW: RS = LOW: Data write RS = High: Command write R / $\overline{W}$ = HIGH: RS = LOW: Status flag read RS = HIGH: Data read
5	R / $\overline{W}$	Read / Write - LOW = MPU to LCD, High = LCD to MPU
6	E	Enable R / $\overline{W}$ = LOW: Data are taking over at falling edge of E R / $\overline{W}$ = HIGH: Data can be read at E = 1
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

BLOCK DIAGRAM