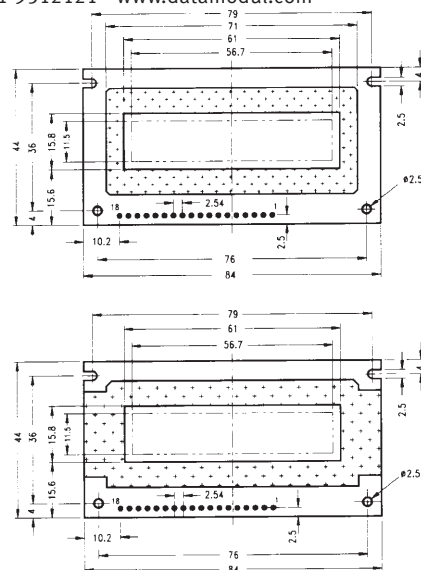




Dimensions [mm]

DESCRIPTION

The BT 80016 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.

MECHANICAL DATA

Parameter	Width x Height x Depth	Unit
Outline Dimensions	84 x 44 x 10 (with LED: 13)	mm
Effective viewing area	61.0 x 15.8	mm
Dot Size	0.61 x 0.625	mm
Dot Pitch	0.71 x 0.725	mm
Dot Matrix	80 x 16	dots
Weight	Approximate 40 (with LED: 50)	g

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	$V_{DD} (V_{DD}-V_{SS})$	0	8.0	V
Supply Voltage (LCD Driver)	$V_{EE} (V_{DD}-V_0)$	0	16.5	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

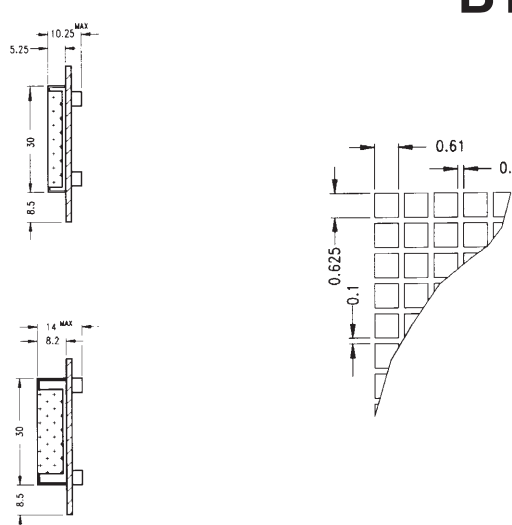
ELECTRICAL CHARACTERISTICS

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	4.1	4.4	V
Supply Current	I_F [at 25°C]	---	90	180	mA
Lamp Style	---	---	04	---	---
LED Segments	---	---	9	---	pcs



Tolerances: ± 0.5

FEATURES

- ◆ High contrast and wide viewing angle
- ◆ Low power consumption
- ◆ Controller / Driver Type - SED 1520 (2)
- ◆ Display Connector Type - 1 x 18 pin (with LED and without LED)
- ◆ Light weight / compact dimensions
- ◆ Built-in display data RAM

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 / W	Read / Write LOW = MPU to LCM, HIGH = LCM to MPU
6	E1	Enable 1, 2
7	E2	R / W = LOW: Data are taking over at falling edge of E R / W = HIGH: Data can be read at E = 1
8	NC	Not Connected
9 to 16	DB ₀ to DB ₇	Data Bus
A	+V _{LED}	Anode of LED Unit
K	-V _{LED}	Cathode of LED Unit

BLOCK DIAGRAM

