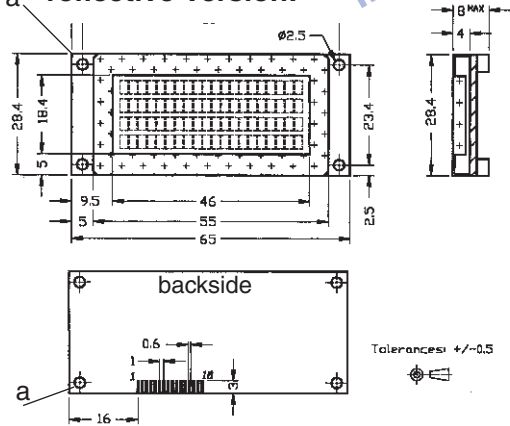


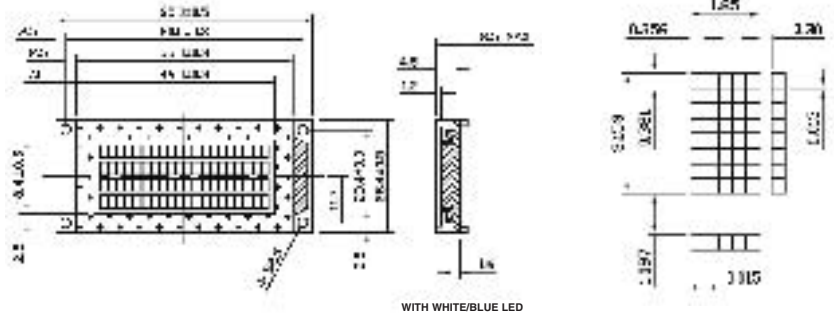
BTHQ42003

4 Lines x 20 Characters

reflective version:



LED backlight version:



Dot Size

Dimensions [mm]

MECHANICAL DATA

Parameter	Width x Height x Depth	Unit
Outline Dimensions	65 x 28.4 x 8 (with LED: 8,5)*	mm
Effective viewing area	46 x 18.4	mm
Dot Size	0.358 x 0.381	mm
Dot Pitch	0.373 x 0.396	mm
Character Matrix	5 x 8	dots
Character Size	1.85 x 3.153	mm
Character Pitch	2.14 x 4.25	mm
Weight	Approximate 16 (with LED: 18)	g

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	V _{DD} (V _{DD} -V _{SS})	0	6.5	V
Supply Voltage (LCD Driver)	V _{EE} (V _{DD} -V ₀)	0	5.0	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°C, V_{DD} = 5.0 ± 0.25 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}	---	2.0	---	mA
Supply Current (LCD Driver)	I _O	---	0.5	---	mA
Duty Ratio	---	---	1 / 32	---	---

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]	---	40	70	mA
Lamp Style	---	---	01	---	---
LED Segments	---	---	4	---	pcs

LED BACKLIGHT (WHITE OR BLUE)

Parameter	Symbol	Min.	Typ	Max.	Unit
Supply Voltage	V _F	3.1	3.4	3.6	V
Supply Current	I _F [at 25°C]	---	20	---	mA
Lamp Style	---	---	05	---	---
LED Segments	---	---	1	---	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} = LOW: Data are taking over at falling edge of E R / \bar{W} = 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
15	+V _{LED}	Anode of LED Unit
16	-V _{LED}	Cathode of LED Unit

ADDITIONAL INFORMATION

- ◆ Display Connector Type (Option):
DIL 1 x 16 pin Connector - BT 21201 / SMD 1 x 16 pin Connector - BT 21000
1 x 16 pin Film Cable 70 mm - BT 21300
- ◆ Controller Type - KS 0073 (1)
- ◆ Driver Type - KS 0065 B (1) or equivalent
- ◆ Internal temperature compensation

BLOCK DIAGRAM

