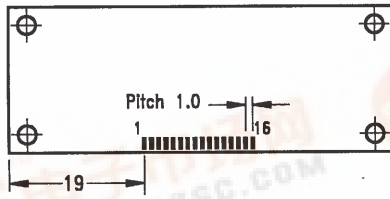
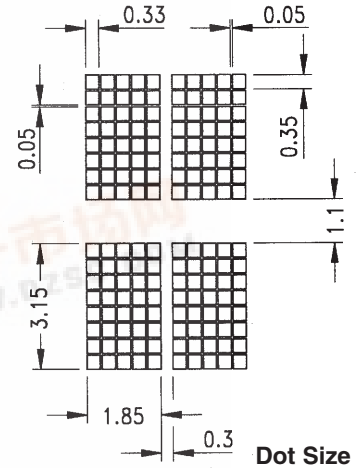
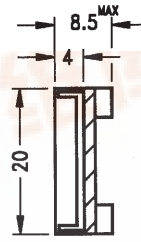
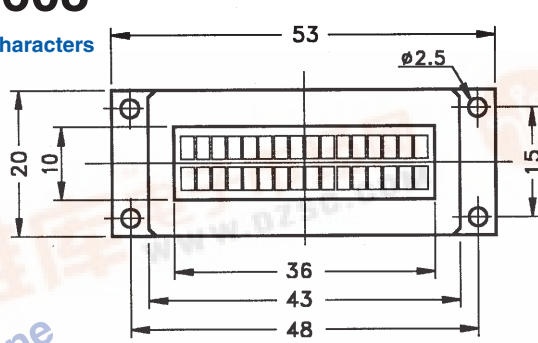


20 3 mm Character Height LCD Modules - MICRO LINE

**BATRON**

**BT 21603**

2 Lines x 16 Characters



Tolerances: +/- 0.5



Dimensions [mm]

MECHANICAL DATA

Parameter	Width x Height x Depth	Unit
Outline Dimensions	53 x 20 x 8 (with LED: 8)*	mm
Effective viewing area	36 x 10	mm
Dot Size	0.33 x 0.35	mm
Dot Pitch	0.38 x 0.40	mm
Character Matrix	5 x 7	dots
Character Size	1.85 x 2.75	mm
Character Pitch	2.15 x 4.25	mm
Weight	Approximate 9.5 (with LED: 10)	g

\* Types with integrated Connector: 9 mm Depth

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage (Logic)	V <sub>DD</sub> (V <sub>DD</sub> -V <sub>SS</sub> )	0	6.5	V
Supply Voltage (LCD Driver)	V <sub>EE</sub> (V <sub>DD</sub> -V <sub>0</sub> )	0	13.5	V
Input Voltage	V <sub>I</sub>	V <sub>SS</sub>	V <sub>DD</sub>	V
Operating Temperature	T <sub>OP</sub>	See Page 11		°C
Storage Temperature	T <sub>ST</sub>	See Page 11		°C

ELECTRICAL CHARACTERISTICS

Condition: Ta = 25°C, V<sub>DD</sub> = 5.0 ± 0.25 V

Parameter	Symbol	Min.	Typ	Max.	Unit
Input Voltage HIGH	V <sub>INH</sub>	2.2	---	---	V
Input Voltage LOW	V <sub>INL</sub>	---	---	0.6	V
Output Voltage HIGH	V <sub>OH</sub>	2.4	---	---	V
Output Voltage LOW	V <sub>OL</sub>	---	---	0.4	V
Supply Current (Logic)	I <sub>DD</sub>	---	1.0	---	mA
Supply Current (LCD Driver)	I <sub>O</sub>	---	0.5	---	mA
Duty Ratio	---	---	1 / 16	---	---

LED BACKLIGHT (STANDARD COLOR GREEN)

Parameter	Symbol	Min.	Typ	Max.	Unit
Supply Voltage	V <sub>F</sub>	3.8	4.1	4.4	V
Supply Current	I <sub>F</sub> [at 25°C]	---	20	35	mA
Lamp Style	---	---	01	---	---
LED Segments	---	---	2	---	pcs

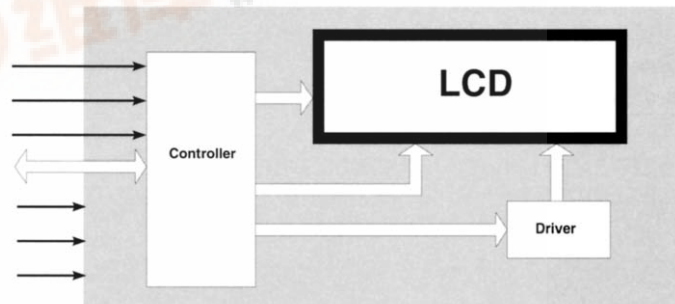
PIN TABLE

Pin	Symbol	Signal Description
1	V <sub>SS</sub>	GND (0 V)
2	V <sub>DD</sub>	Power Supply (5 V)
3	V <sub>0</sub>	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	E	Enable R / W = LOW: Data are taking over at falling edge of E R / W = HIGH: Data can be read at E = 1
7 to 14	DB <sub>0</sub> to DB <sub>7</sub>	Data Bus - Software selectable 4 or 8 Bit Mode
15	+V <sub>LED</sub>	Anode of LED Unit
16	-V <sub>LED</sub>	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 - SPLC 780 (1) or compatible

BLOCK DIAGRAM



**DATA MODI**