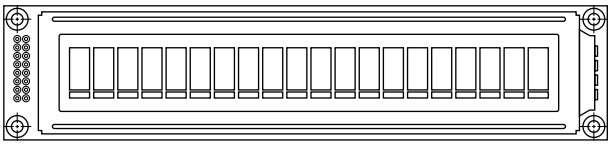
20 x 1 Character LCD



FEATURES

- Type: Character
- Display format: 20 x 1 characters
- Built-in controller: KS 0066 (or equivalent)
- Duty cycle: 1/16
- 5 x 7 dots includes cursor
- + 5 V power supply
- Compliant to RoHS directive 2002/95/EC

Pb-free
RoHS COMPLIANT

MECHANICAL DATA

ITEM	STANDARD VALUE	UNIT
Module Dimension	180.0 x 40.0	mm
Viewing Area	149.0 x 23.0	
Dot Size	1.152 x 1.765	
Dot Pitch	1.212 x 1.825	
Mounting Hole	172.0 x 32.0	
Character Size	1.152 x 1.765	

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	V_{DD} to V_{SS}	- 0.3	-	7.0	V
Input Voltage	V_I	V_{SS}	-	V_{DD}	

Note

- V_{SS} = 0 V, V_{DD} = 5.0 V

ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	V_{DD}	-	4.5	5.0	5.5	V
Supply Current	I_{DD}	V_{DD} = + 5 V	1.0	1.2	1.5	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	V_{DD} to V_0	- 20 °C	-	-	5.7	V
		0 °C	-	-	-	
		25 °C	-	4.2	-	
		50 °C	-	-	-	
		70 °C	3.2	-	-	
LED Forward Voltage	V_F	25 °C	3.4	3.5	3.6	V
LED Forward Current - Array	I_F	25 °C	-	-	-	mA
LED Forward Current - Edge			50	60	75	
EL Power Supply Current	I_{EL}	V_{EL} = 110 V_{AC}, 400 Hz	-	-	5.0	mA

OPTIONS

PROCESS COLOR						BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
x	x	x	x			x	x	x	

For detailed information, please see the “Product Numbering System” document.

DISPLAY CHARACTER ADDRESS CODE

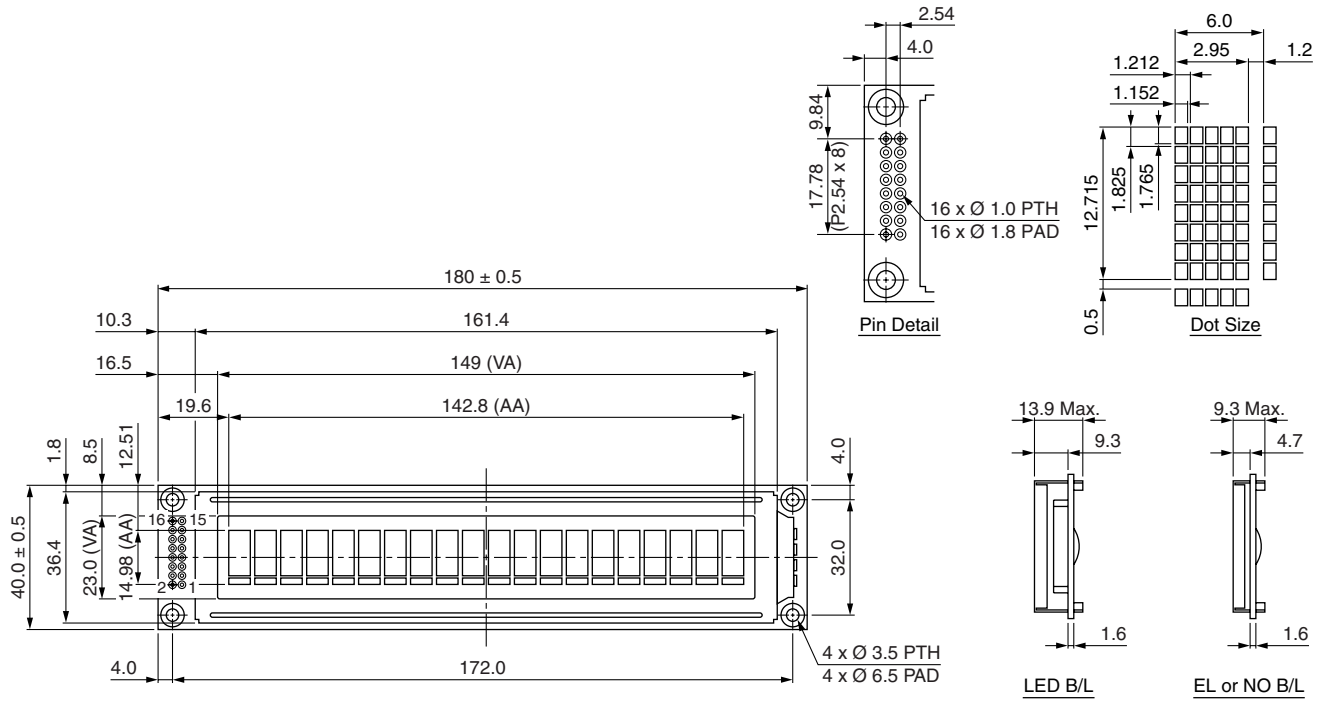
Display Position

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
DD RAM Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13

INTERFACE PIN FUNCTION

PIN NO.	SYMBOL	FUNCTION
1	V_{SS}	Ground
2	V_{DD}	Supply voltage for logic
3	V_0	Operating voltage for LCD
4	RS	H: Data/L: Instruction
5	R/$\overline{W}$	H: Read data/L: Write data
6	E	Chip enable signal
7	DB0	Data bit 0
8	DB1	Data bit 1
9	DB2	Data bit 2
10	DB3	Data bit 3
11	DB4	Data bit 4
12	DB5	Data bit 5
13	DB6	Data bit 6
14	DB7	Data bit 7
15	A	LED +
16	K	LED -

DIMENSIONS in millimeters



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