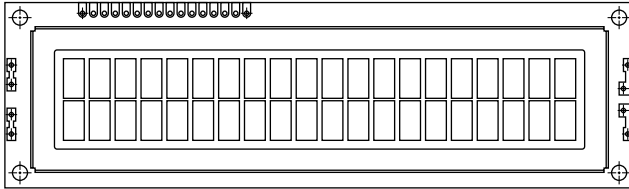


## 20 x 2 Character LCD



### FEATURES

- Type: Character
- Display format: 20 x 2 characters
- Built-in controller: KS 0066 (or equivalent)
- Duty cycle: 1/16
- 5 x 8 dots includes cursor
- + 5 V power supply (also available for + 3 V)
- B/L can be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- N.V. optional for + 3 V power supply
- Compliant to RoHS directive 2002/95/EC


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	146.0 x 43.0	mm
Viewing Area	123.0 x 23.0	
Dot Size	0.92 x 1.10	
Dot Pitch	0.98 x 1.16	
Mounting Hole	139.0 x 36.0	
Character Size	4.84 x 9.22	

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	$V_I$	- 0.3	-	$V_{DD}$	

**Note**

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

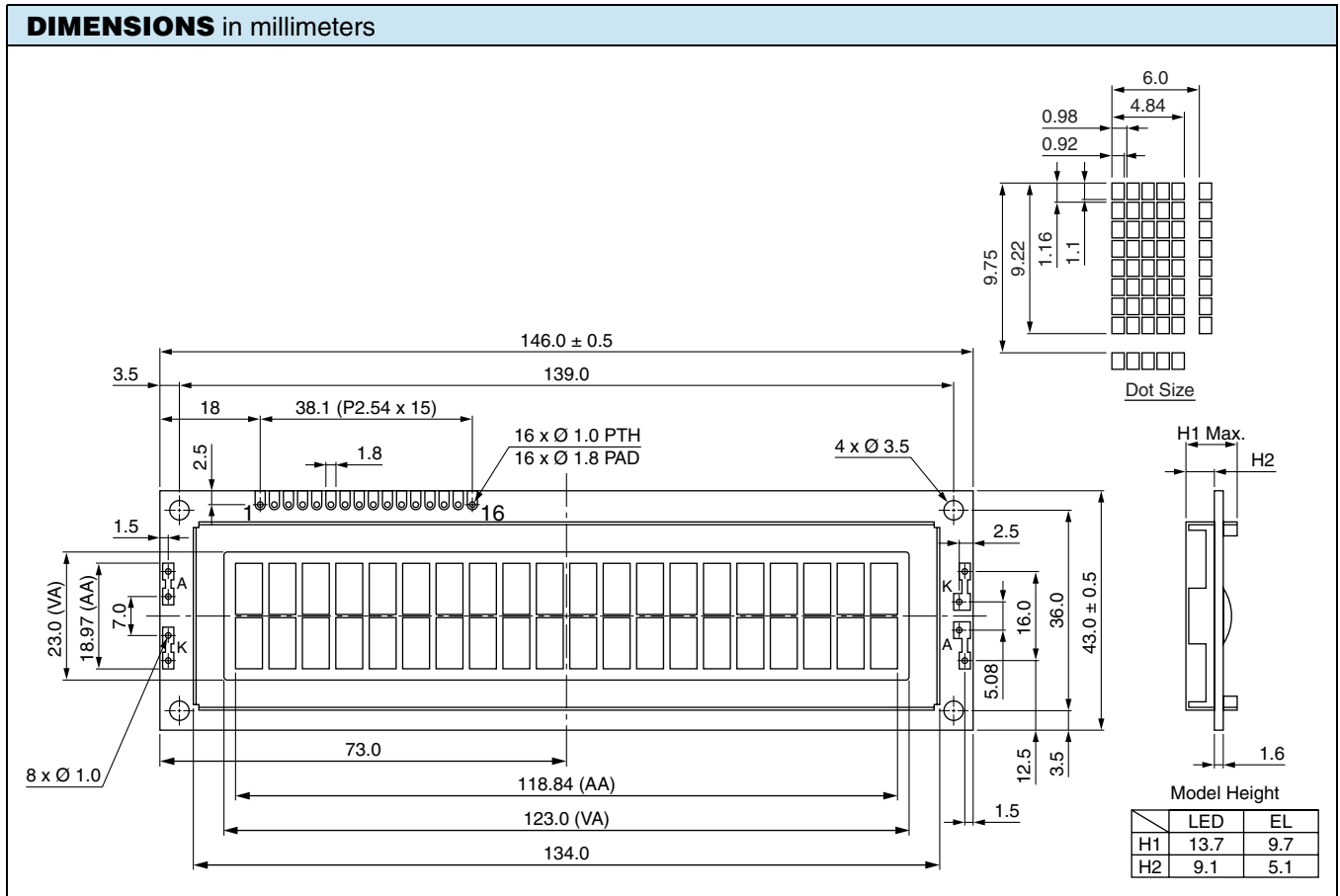
ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	$V_{DD}$	$V_{DD} = +5$ V	4.7	5.0	5.3	V
		$V_{DD} = +3$ V	2.7	3.0	5.3	V
Supply Current	$I_{DD}$	$V_{DD} = +5$ V	-	1.65	-	mA
Recommended LC Driving Voltage for Normal Temperature Version Module	$V_{DD}$ to $V_0$	- 20 °C	5.0	5.1	5.7	V
		0 °C	4.6	4.8	5.2	
		25 °C	4.1	4.5	4.7	
		50 °C	3.9	4.2	4.5	
		70 °C	3.7	3.9	4.3	
EL Power Supply Current	$I_{EL}$	$V_{EL} = 110$ V <sub>AC</sub> , 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
DD RAM Address		40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53

INTERFACE PIN FUNCTION			
PIN NO.	SYMBOL	PIN NO.	FUNCTION
1	V <sub>SS</sub>		Ground
2	V <sub>DD</sub>		+ 3 V or + 5 V
3	V <sub>0</sub>		Contrast adjustment
4	RS		H/L register select signal
5	R/W		H/L read/write signal
6	E		H → L enable signal
7	DB0		H/L data bus line
8	DB1		H/L data bus line
9	DB2		H/L data bus line
10	DB3		H/L data bus line
11	DB4		H/L data bus line
12	DB5		H/L data bus line
13	DB6		H/L data bus line
14	DB7		H/L data bus line
15	A/V <sub>EE</sub>		+ 4.2 V for LED (R <sub>A</sub> = 0 Ω)/negative voltage output
16	K		Power supply for B/L (0 V)





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- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
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- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А