

### 16 x 1 Character LCD

# $\Phi$ $\oplus$ $\Phi$

#### **FEATURES**

Type: Character

• Display format: 16 x 1 characters

RoHS • Built-in controller: ST 7066 (or equivalent) COMPLIANT

• Duty cycle: 1/16

• 5 x 8 dots includes cursor

• + 5 V power supply (also available for + 3 V)

• LED can be driven by pin 1, pin 2, pin 15, pin 16 or A and K

• N.V. optional for + 3 V power supply

• Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA							
ITEM	STANDARD VALUE	UNIT					
Module Dimension	122.0 x 33.0						
Viewing Area	99.0 x 13.0						
Dot Size	0.92 x 1.10	mm					
Dot Pitch	0.98 x 1.16	mm					
Mounting Hole	115.0 x 25.2						
Character Size	4.84 x 8.06						

ABSOLUTE MAXIMUM RATINGS							
ITEM	SYMBOL	STAN	UNIT				
IIEW	STIVIBUL	MIN.	TYP.	MAX.	UNIT		
Power Supply	V <sub>DD</sub> to V <sub>SS</sub>	- 0.3	-	7.0	V		
Input Voltage	VI	- 0.3	-	$V_{DD}$	v		

#### Note

•  $V_{SS} = 0 \text{ V}, V_{DD} = 5.0 \text{ V}$ 

ELECTRICAL CHARACTERISTICS								
ITEM	SYMBOL	CONDITION	ST	STANDARD VALUE				
IIEM	STIMBUL	CONDITION	MIN.	TYP.	MAX.	UNIT		
Input Voltage	V <sub>DD</sub>	V <sub>DD</sub> = + 5 V	4.7	5.0	5.3	V		
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> = + 5 V	-	1.2	1.4	mA		
		- 20 °C	4.9	5.1	5.5			
Recommended LC Driving		0 °C	4.5	4.8	5.1			
Voltage for Normal Temperature	$V_{DD}$ to $V_{0}$	25 °C	4.1	4.5	4.7	V		
Version Module		50 °C	3.8	4.2	4.4			
		70 °C	3.5	3.9	4.1	1		
LED Forward Voltage	V <sub>F</sub>	25 °C	-	4.2	4.6	V		
LED Forward Current	I <sub>F</sub>	25 °C	-	160	-	mA		

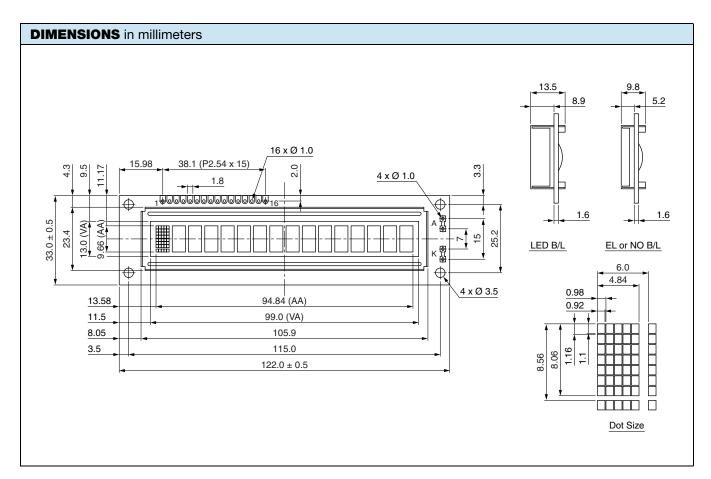
OPTIONS										
PROCESS COLOR							BACKLIGHT			
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL	
х	Х	х	Х	Х		Х	Х	Х		

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
DD RAM Address	00	01	02	03	04	05	06	07	40	41	42	43	44	45	46	47
					•				<u> </u>							



INTERFACE PIN FUNCTION							
PIN NO.	SYMBOL	FUNCTION					
1	V <sub>SS</sub>	Ground					
2	V <sub>DD</sub>	+ 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	$H \rightarrow L$ 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 ( $R_A = 0 \Omega$ )/negative voltage output					
16	К	Power supply for B/L (0 V)					





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