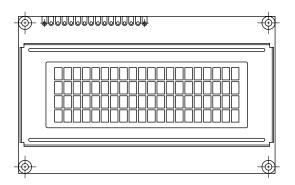


Vishay

20 x 4 Character LCD



MECHANICAL DATA							
ITEM	UNIT						
Module Dimension	98.0 x 60.0						
Viewing Area	77.0 x 25.2						
Dot Size	0.55 x 0.55	mm					
Dot Pitch	0.60 x 0.60	1 111111					
Mounting Hole	93.0 x 55.0						
Character Size	2.95 x 4.75						

FEATURES

Type: Character

• Display format: 20 x 4 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)

• 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

• FFC and FFC connector is for LCD-020N004B only

• Compliant to RoHS directive 2002/95/EC

ABSOLUTE MAXIMUM RATINGS										
ITEM	SYMBOL	STAN	IDARD V	ALUE	UNIT					
	STWIDOL	MIN.	TYP.	MAX.	UNIT					
Power Supply	V_{DD} to V_{SS}	- 0.3	-	7.0	V					
Input Voltage	VI	- 0.3	-	V_{DD}	\ \					

Note

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

ELECTRICAL CHARACTERISTICS										
ITEM	SYMBOL	CONDITION	ST							
I I EIVI	STINIBUL	CONDITION	MIN. TYP. MAX.		MAX.	UNIT				
Input Voltage	V_{DD}	V _{DD} = + 5 V	2.7	-	5.3	V				
Supply Current	I _{DD}	V _{DD} = + 5 V	-	1.0	1.2	mA				
Recommended LC Driving Voltage for Normal Temperature		- 20 °C	5.0	5.1	5.7					
	V_{DD} to V_0	25 °C	4.1	4.5	4.7	V				
Version Module		70 °C	3.7	3.9	4.6					
LED Forward Voltage	V _F	25 °C	-	4.2	4.6	V				
LED Forward Current - Array	_	25 °C	-	280	560	mA				
LED Forward Current - Edge	l _F	25 0	-	-	-	IIIA				
EL Power Supply Current	I _{EL}	V _{EL} = 110 V _{AC} , 400 Hz	-	-	5.0	mA				

OPTION	S								
		PROCES	S COLOR				BACK	LIGHT	
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
х	Х	x	Х			Х	Х	x	

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

RAC	TEF	RAE	DR	ESS	CO	DE													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53
14	15	16	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	26	27
54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	60	61	62	63	64	65	66	67
	1 00 40	1 2 00 01 40 41 14 15	1 2 3 00 01 02 40 41 42 14 15 16	1 2 3 4 00 01 02 03 40 41 42 43 14 15 16 17	1 2 3 4 5 00 01 02 03 04 40 41 42 43 44 14 15 16 17 18	1 2 3 4 5 6 00 01 02 03 04 05 40 41 42 43 44 45 14 15 16 17 18 19	00 01 02 03 04 05 06 40 41 42 43 44 45 46 14 15 16 17 18 19 1A	1 2 3 4 5 6 7 8 00 01 02 03 04 05 06 07 40 41 42 43 44 45 46 47 14 15 16 17 18 19 1A 1B	1 2 3 4 5 6 7 8 9 00 01 02 03 04 05 06 07 08 40 41 42 43 44 45 46 47 48 14 15 16 17 18 19 1A 1B 1C	1 2 3 4 5 6 7 8 9 10 00 01 02 03 04 05 06 07 08 09 40 41 42 43 44 45 46 47 48 49 14 15 16 17 18 19 1A 1B 1C 1D	1 2 3 4 5 6 7 8 9 10 11 00 01 02 03 04 05 06 07 08 09 0A 40 41 42 43 44 45 46 47 48 49 4A 14 15 16 17 18 19 1A 1B 1C 1D 1E	1 2 3 4 5 6 7 8 9 10 11 12 00 01 02 03 04 05 06 07 08 09 0A 0B 40 41 42 43 44 45 46 47 48 49 4A 4B 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F	1 2 3 4 5 6 7 8 9 10 11 12 13 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22 23	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22 23 24	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22 23 24 25	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 10 11 12 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 14 15 16 17 18 19 1A 1B 1C 1D 1E 1F 20 21 22 23 24 25 26

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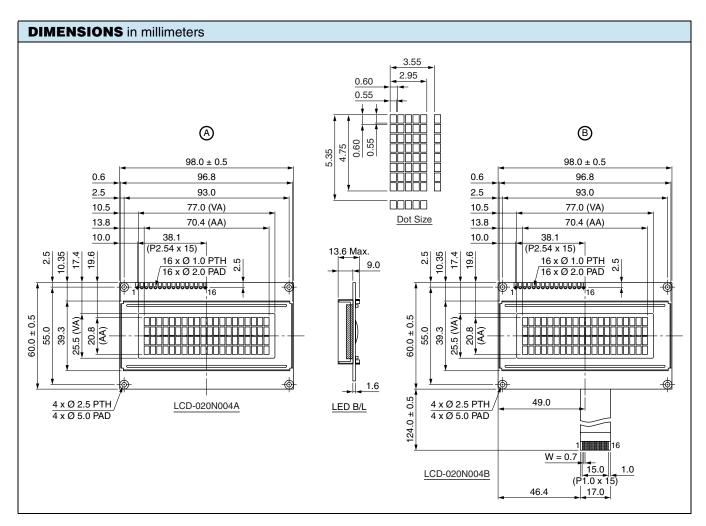
LCD-020N004A, LCD-020N004B

Vishay

20 x 4 Character LCD



INTERFACE	INTERFACE PIN FUNCTION								
PIN NO.	SYMBOL	FUNCTION							
1	V _{SS}	Ground							
2	V _{DD}	Supply voltage for logic							
3	V ₀	Contrast adjustment							
4	RS	H: Data/L: Instruction							
5	R/W	H: Read data/L: Write data							
6	E	Enable signal							
7	DB0	Data bus line							
8	DB1	Data bus line							
9	DB2	Data bus line							
10	DB3	Data bus line							
11	DB4	Data bus line							
12	DB5	Data bus line							
13	DB6	Data bus line							
14	DB7	Data bus line							
15	A	+ 4.2 V for LED							
16	К	Power supply for B/L (-)							





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