CHARACTER LCD MODULE

Character LCD is meant to display text/ characters only.

For example, a 16X2 LCD would be capable of displaying 2 lines each having 16 Characters and a 20X2 LCD would display 4 lines with 20 characters each.

Although they display only text, they do come in many sizes and colors: for example, 16×1, 16×4, 20×4, with white text on blue background, with black text on green and many more.
Bolymin is a leading manufacturer of character LCD display modules in the Taiwan. We offer many standard sizes, including 8x1 characters LCD, 8x2 characters LCD, 16x2 character LCD, 16x4 characters LCD, 20x4 characters LCD and also provide customized LCD.

Bolymin have various color LCD display with different LED backlights. Yellow-Green LCD module, White LCD Module, Red LCD Module etc. please refer to our LCD shade card for more details.

We cater to customers across the globe and offer various IC options of character fonts including English Font, Japanese Font, European Font, Cyrillic Font, Chinese (Simplified), Chinese (traditional), Arabic Font, Hebrew Font etc.

Different application require different LCD view angles and Bolymin offers viewing angles of 6:00, 12:00, 3:00, and 9:00 o'clock.

format	model	module size (mm)	view area (mm)	dot size (mm)	controller	interface	product flyer
8x2	BC0802A	58*32	36*16	0,545 * 0,645	ST7066	Parallel	
8x2	BC0802B	40*20	36.3*13.9	0,6 * 0,6	ST7066	Parallel	
12x2	BC1202B	55.7*32	46*14.5	0,4 * 0,6	ST7066	Parallel	
16x1	BC1601A	80*36	66*16	0,55 * 0,75	ST7066	Parallel	
16x1	BC1601D	122*33	99*13	0,92 * 1,16	ST7066	Parallel	
16x2	BC1602A	80*36	66*16	0,55 * 0,65	ST7066	Parallel	
16x2	BC1602B	85*30	66*16	0,56 * 0,66	ST7066	Parallel	
16x2	BC1602D	80*36	66*16	0,56 * 0,66	ST7066	Parallel	
16x2	BC1602E	122*44	99*24	0,92 * 1,10	ST7066	Parallel	
16x2	BC1602F	85*32.6	66*16	0,56 * 0,66	ST7066	Parallel	
16x2	BC1602H	84*44	66*16	0,56 * 0,66	ST7066	Parallel	
16x2	BC1602K1	59*29.3	52*15	0,45 * 0,54	ST7066	Parallel	
16x2	BC1602L	68*26.8	61*19	0,56 * 0,60	ST7066	Parallel	
16x4	BC1604A	87*60	62*26	0,55 * 0,55	ST7066	Parallel	
16x4	BC1604AR	87*60	62*26	0,55 * 0,55	RW1063	4-Line SPI	
16x4	BC1604AW	87*60	62*26	0,55 * 0,55	RW1063	I²C	
20x2	BC2002A	116*37	85*18.6	0,6 * 0,65	ST7066	Parallel	
20x2	BC2002B	180*40	149*23	1,12 * 1,12	ST7066	Parallel	
20x2	BC2002C	146*43	123*23	0,92 * 1,10	ST7066	Parallel	
20x4	BC2004A	98*60	77*25.2	0,55 * 0,55	ST7066	Parallel	
20x4	BC2004B	146*62.5	123.5*43	0,92 * 1,10	ST7066	Parallel	
20x4	BC2004H	75*45,8	61*38	0,44 * 0,44	RW1073	Parallel / SPI	
20x4	BC2004I	68*26,8	61*19	0,44 * 0,44	RW1073	Parallel / SPI	
24x2	BC2402A	118*36	94.5*16	0,60 * 0,65	ST7066	Parallel	
40x2	BC4002A	182*33.5	154.4*16.5	0,60 * 0,65	ST7066	Parallel	
40x4	BC4004A	190*54	147*29.5	0,50 * 0,55	ST7066	Parallel	

For more information about the above products, please do not hesitate to contact us

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BC0802A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: A/K, or1/2, or 15/16
7. Option: LED, EL B/L

Mechanical Data

Item	Standard Value	Unit
Module Dimension	58.0 x 32.0	mm
Viewing Area	38.0 x 16.0	mm
Dot Size	0.545 x 0.645	mm
Character Size	2.945 x 5.545	mm

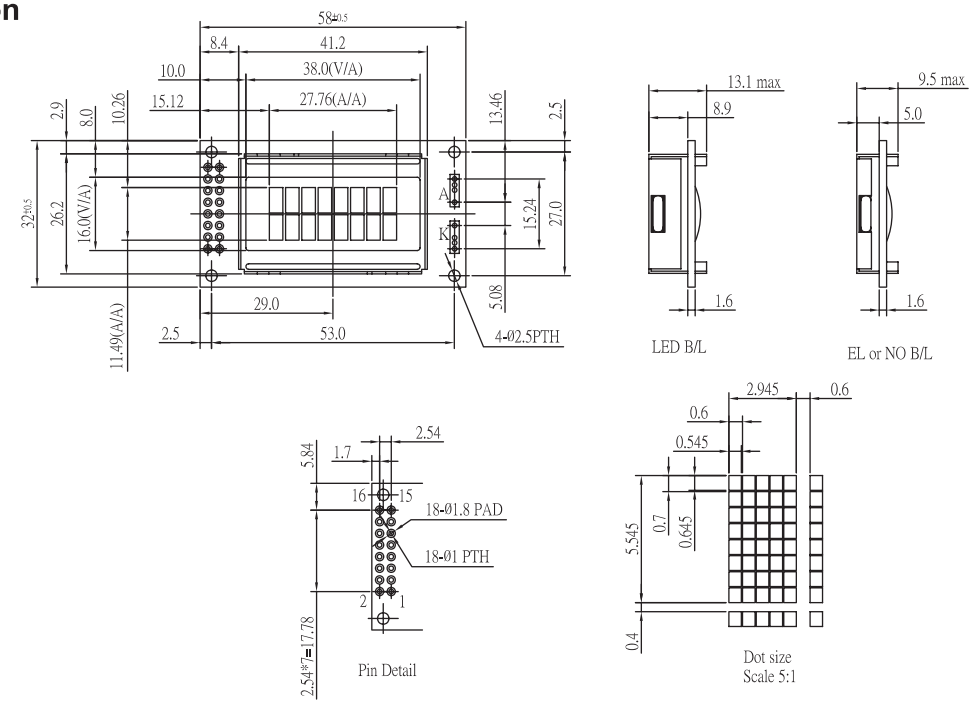
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A	Power supply for B/L (+)
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.5	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.3	V
LED Forward Voltage(yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	70	mA
EL Power Current	Vel	Vel=110Vac/400Hz		V

Dimension



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BC0802B

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. +5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 1/2
7. Option: array LED B/L
8. No Negative Voltage Option

Mechanical Data

Item	Standard Value	Unit
Module Dimension	40.0 x 20.0	mm
View Area	36.3 x 13.9	mm
Dot Size	0.60 x 0.60	mm
Dot Pitch	3.12 x 5.01	mm

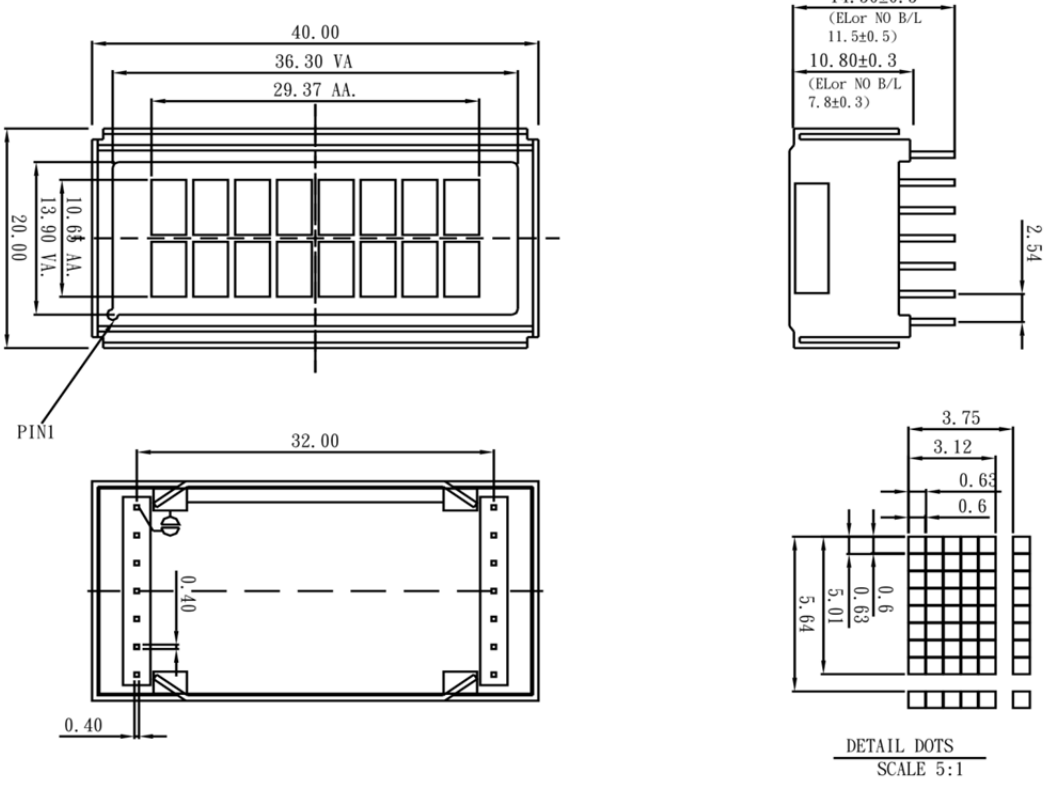
Pin Assignment

Pin	Symbol	Function
1	Vss	Ground
2	Vdd	+ 5V
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H--> L enable signal
7~14	DB0~7	H/L data bus line

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	VDD	VDD=+5V	5.0	V
Supply Current	IDD	VDD=+5V	1.5	mA
LCD Driving Voltage	Vdd-Vo	25℃	4.4	V
LED Forward Voltage(Y-G)	VF	25℃	4.0	V
LED Forward Current	IF	25℃	100	mA

Dimension



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BC1202B

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. +5V single power supply
5. 1/16 duty cycle
6. B/L pins:15 ,or A/K or 1/2
7. No negative voltage option

Mechanical Data

Item	Standard Value	Unit
Module Dimension	55.7 x 32.0	mm
View Area	46.0 x 14.5	mm
Dot Size	0.45 x 0.60	mm
Dot Pitch	2.65 x 5.50	mm

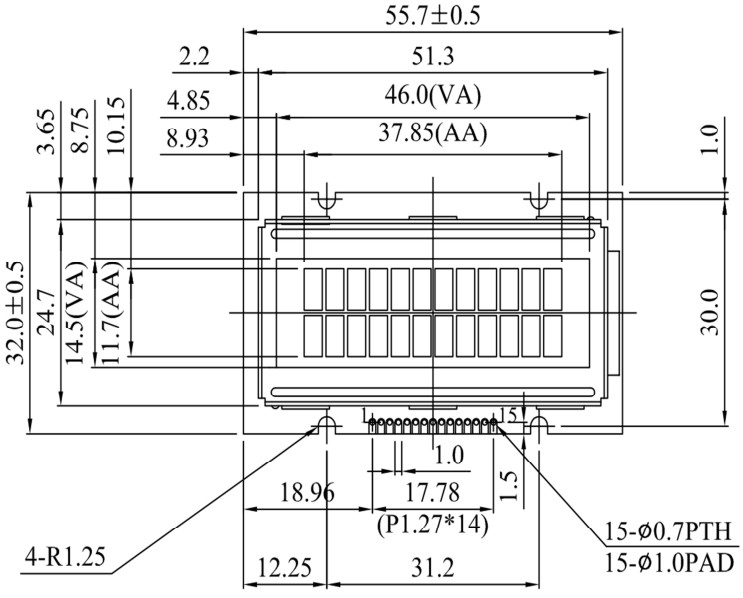
Pin Assignment

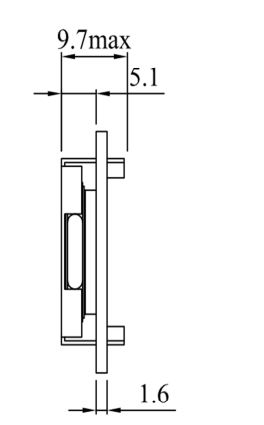
Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A	Power supply for B/L (+)

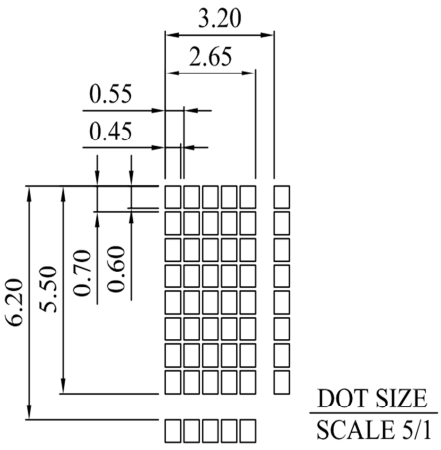
Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.2	V
LED Forward Voltage(yellow-green)	Vf	25°C	3.0	V
LED Forward Current	If	25°C	40	mA

Dimension







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BC1601A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:15/16, or A/K, or 1/2
7. Option: LED array/edge B/L , EL B/L
8. Option: +3V single power supply
9. Option: negative voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	80.0 x 36.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.55 x 0.75	mm
Character Size	3.07 x 6.56	mm

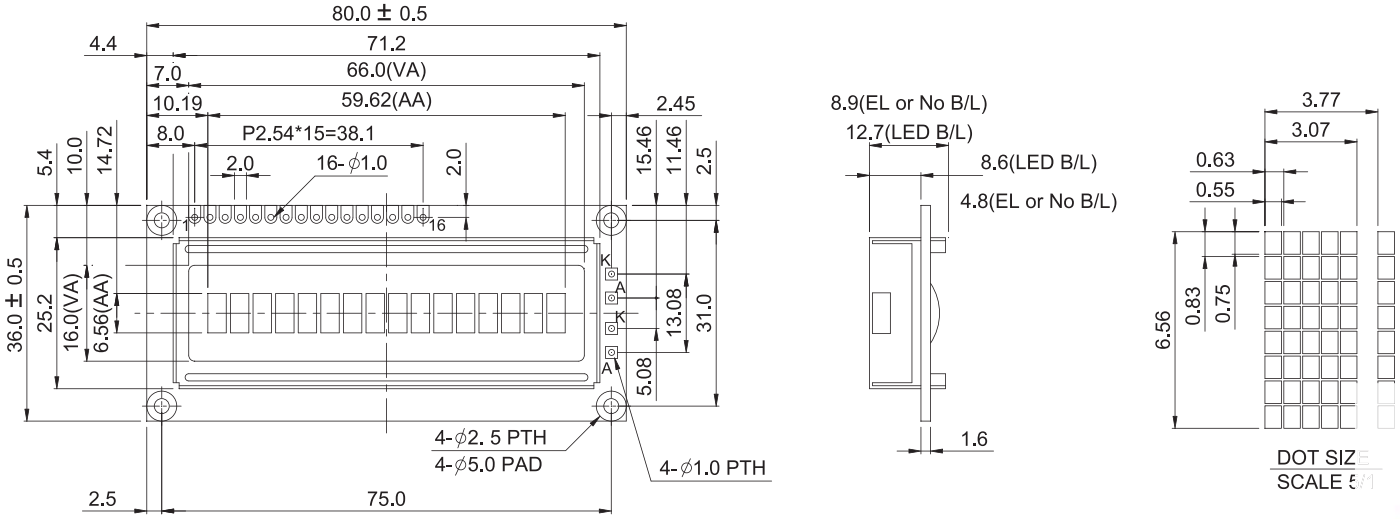
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V(+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage(yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	110	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



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BC1601D

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K or 1/2
7. Option: LED B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	122.0 x 33.0	mm
Viewing Area	99.0 x 13.0	mm
Dot Size	0.92 x 1.16	mm
Character Size	4.84 x 9.7	mm

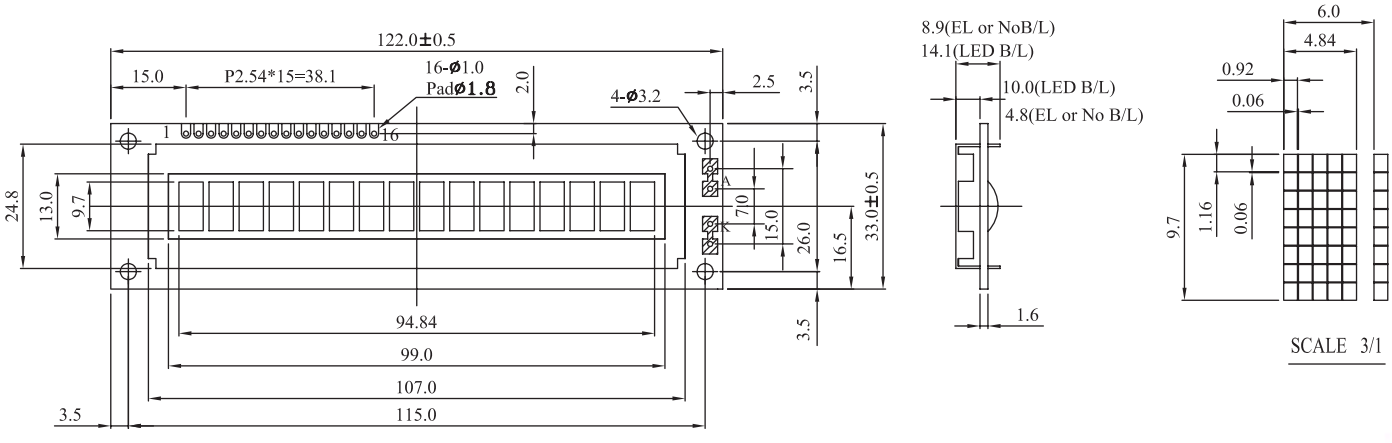
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V(+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage(yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	160	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

BC1602A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:15/16, or A/K, or 1/2
7. Option: LED array/edge B/L, EL/BL
8. Option: +3V single power supply
9. Option: Negative Voltage
10. Option: LCD Vop Fix on 5V (-20°C~+70°C)

Mechanical Data

Item	Standard Value	Unit
Module Dimension	80.0 x 36.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.56 x 0.66	mm
Character Size	2.96 x 5.56	mm

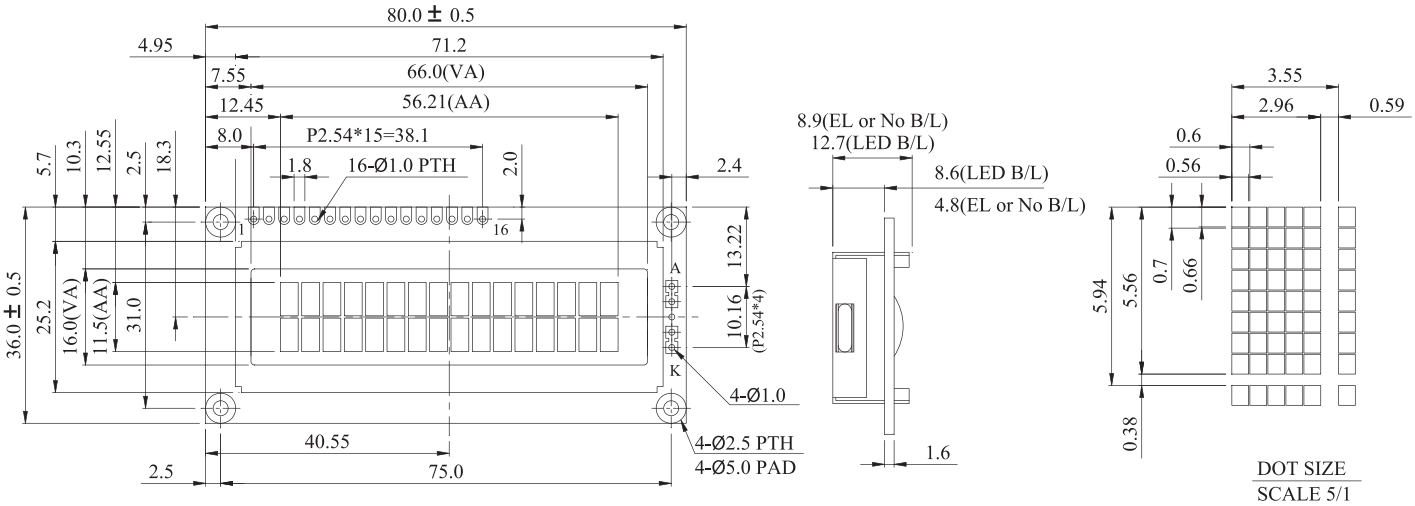
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Value		Unit
Input Voltage	Vdd	Vdd = +5V	5.0		V
Supply Current	Idd	Vdd = +5V	1.2		mA
LCD Driving Voltage	Vdd-Vo		TYP	*Option*	V
		70°C	3.6	***5.0***	
		25°C	4.0	***5.0***	
		-20°C	5.0	***5.0***	
LED Forward Voltage	Vf	25°C	4.2		V
Array LED Forward Current	If	25°C	100		mA
Edge LED Forward Current	If	25°C	20		mA
EL Power Voltage	Vel	Vel=110Vac/400Hz			V

Dimension



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BOLYMIN

BC1602B

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:A/K, or 1/2
7. Option: LED array/ edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage
10. ***Option: LCD Vop fix on 5V (-20°C~+70°C)***

Mechanical Data

Item	Standard Value	Unit
Module Dimension	85.0 x 30.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.56 x 0.66	mm
Character Size	2.96 x 5.56	mm

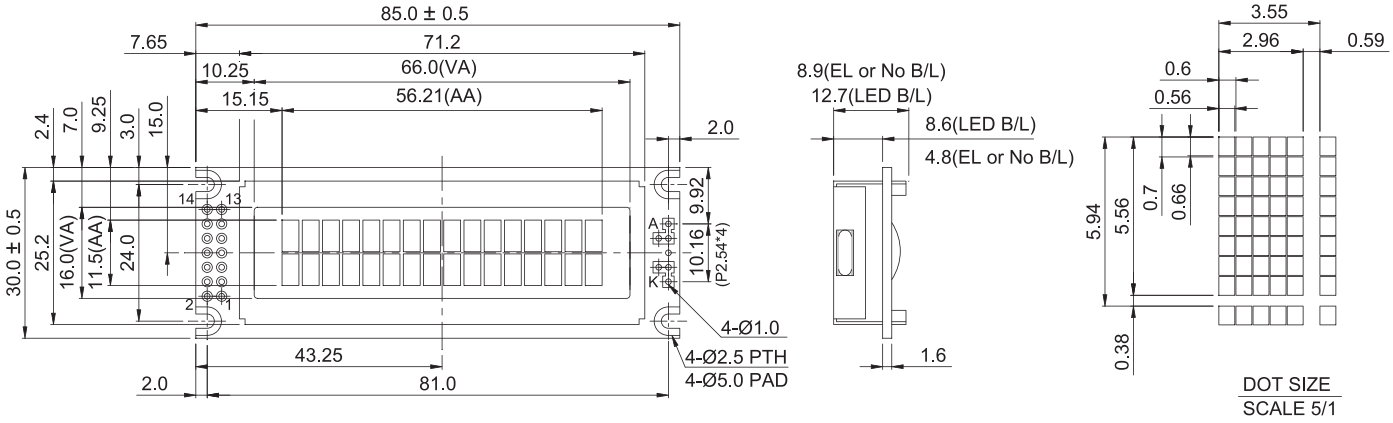
Pin Assignment

Pin	Symbol	Function
1	Vdd	+5V(+3V option)
2	Vss	GND
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line

Electronic Characteristics

Item	Symbol	Condition	Value		Unit
Input Voltage	Vdd	Vdd = +5V	5.0		V
Supply Current	Idd	Vdd = +5V	1.2		mA
LCD Driving Voltage	Vdd-Vo		TYP	*Option*	V
		70°C	3.6	***5.0***	
		25°C	4.0	***5.0***	
		-20°C	5.0	***5.0***	
LED Forward Voltage(yellow-green)	Vf	25°C	4.2		V
Array LED Forward Current	If	25°C	100		mA
EL Power Voltage	Vel	Vel=110Vac/400Hz			V

Dimension



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BC1602D

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED array/edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage
10. ***Option: LCD Vop fix on 5V (-20 °C~+70 °C)***

Mechanical Data

Item	Standard Value	Unit
Module Dimension	85.0 x 36.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.56 x 0.66	mm
Character Size	2.96 x 5.56	mm

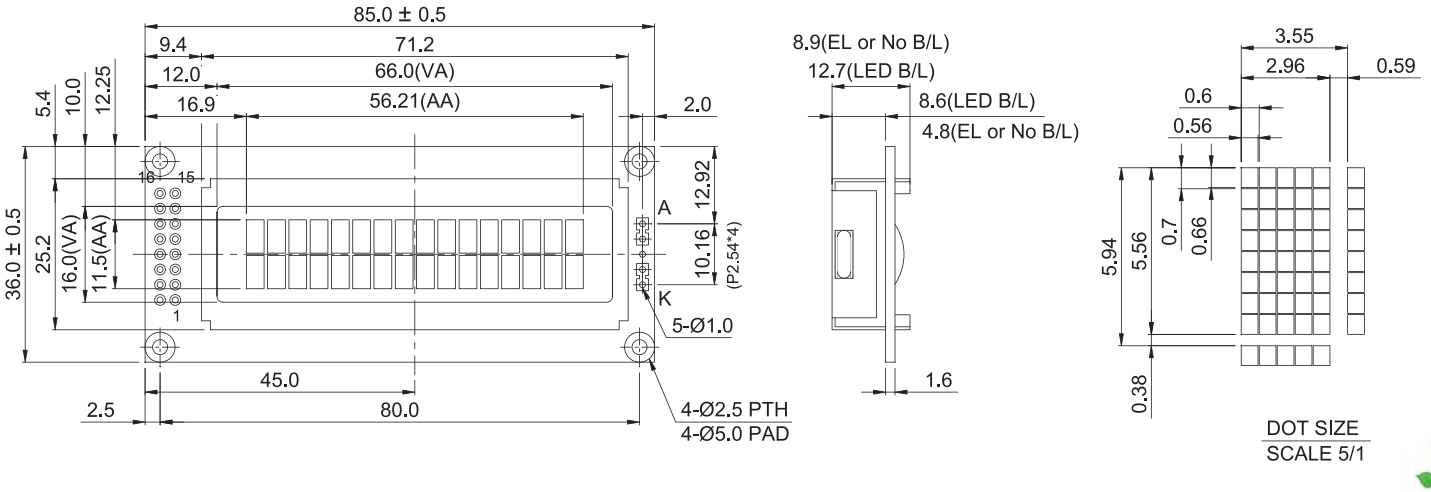
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Value		Unit
Input Voltage	Vdd	Vdd = +5V	5.0		V
Supply Current	Idd	Vdd = +5V	1.2		mA
LCD Driving Voltage	Vdd-Vo		TYP	*Option*	V
		70 °C	3.6	***5.0***	
		25 °C	4.0	***5.0***	
		-20 °C	5.0	***5.0***	
LED Forward Voltage(yellow-green)	Vf	25 °C	4.2		V
Array LED Forward Current	If	25 °C	100		mA
Edge LED Forward Current	If	25 °C	20		mA
EL Power Voltage	Vel	Vel=110Vac/400Hz			V

Dimension



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BOLYMIN

BC1602E

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED array / EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	122.0 x 44.0	mm
Viewing Area	99.0 x 24.0	mm
Dot Size	0.92 x 1.10	mm
Character Size	4.84 x 9.66	mm

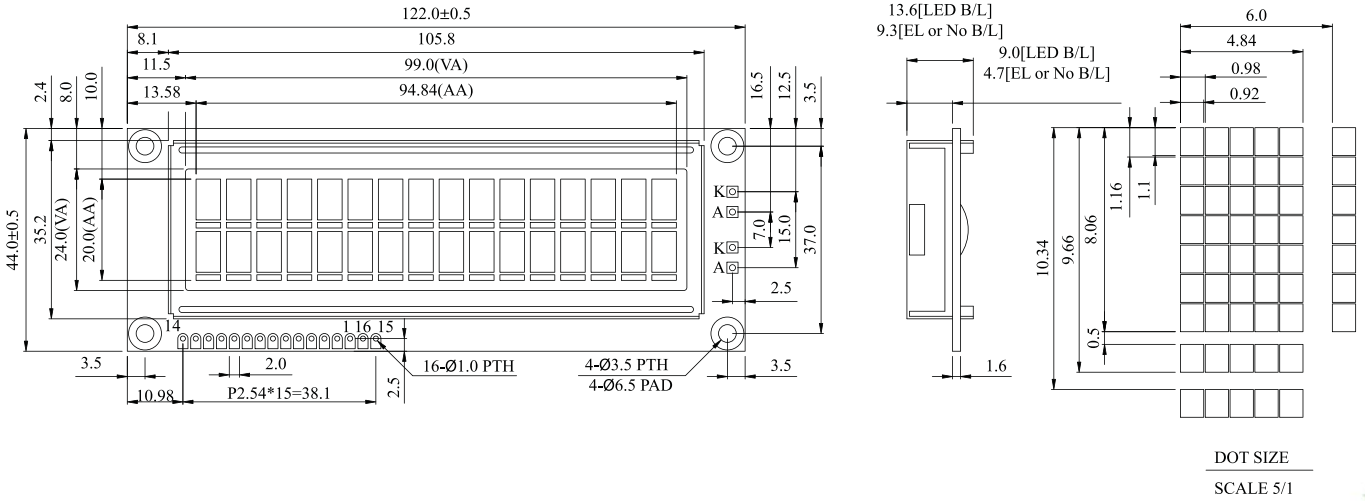
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V(+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	3.9	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	240	mA
EL Power Current	Vel	Vel=110Vac/400Hz		V

Dimension



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BC1602F

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: A/K, or 1/2
7. Option: LED array/edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage
10. ***Option: LCD Vop fix on 5V (-20°C~+70°C)***

Mechanical Data

Item	Standard Value	Unit
Module Dimension	85.0 x 32.6	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.56 x 0.66	mm
Character Size	2.96 x 5.56	mm

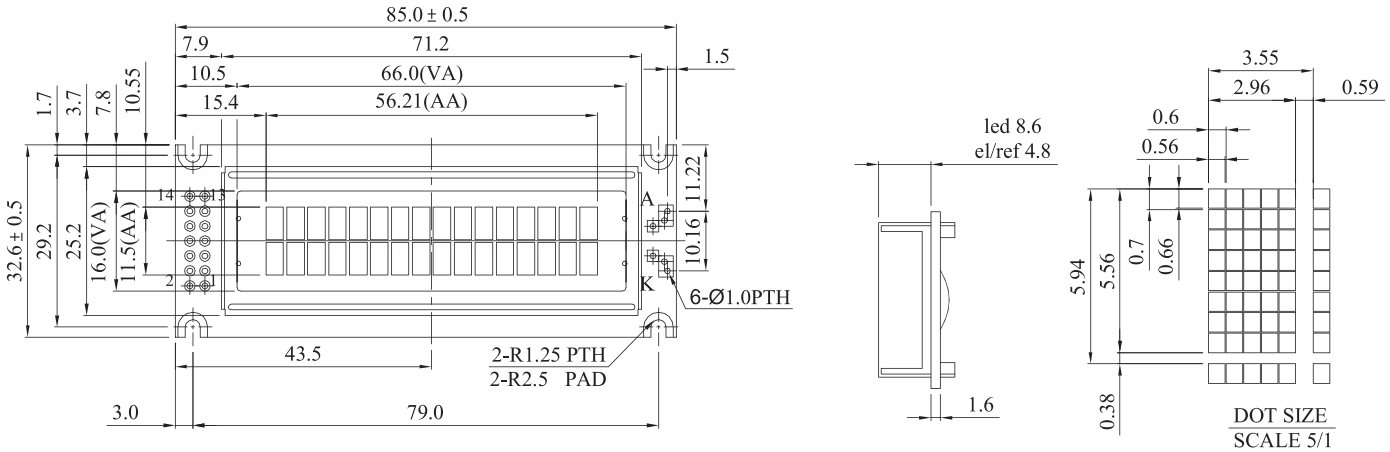
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line

Electronic Characteristics

Item	Symbol	Condition	Value		Unit
Input Voltage	Vdd	Vdd = +5V	5.0		V
Supply Current	Idd	Vdd = +5V	1.2		mA
LCD Driving Voltage	Vdd-Vo		TYP	*Option*	V
		70°C	3.6	***5.0***	
		25°C	4.0	***5.0***	
		-20°C	5.0	***5.0***	
LED Forward Voltage(yellow-green)	Vf	25°C	4.2		V
Array LED Forward Current	If	25°C	100		mA
Edge LED Forward Current	If	25°C	20		mA
EL Power Voltage	Vel	Vel=110Vac/400Hz			V

Dimension



BOLYMIN

BC1602H

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16 or A/K, or 1/2
7. Option: LED array/edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage
10. ***Option: LCD Vop fix on 5V (-20°C~+70°C)***

Mechanical Data

Item	Standard Value	Unit
Module Dimension	84.0 x 44.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.56 x 0.66	mm
Character Size	2.96 x 5.56	mm

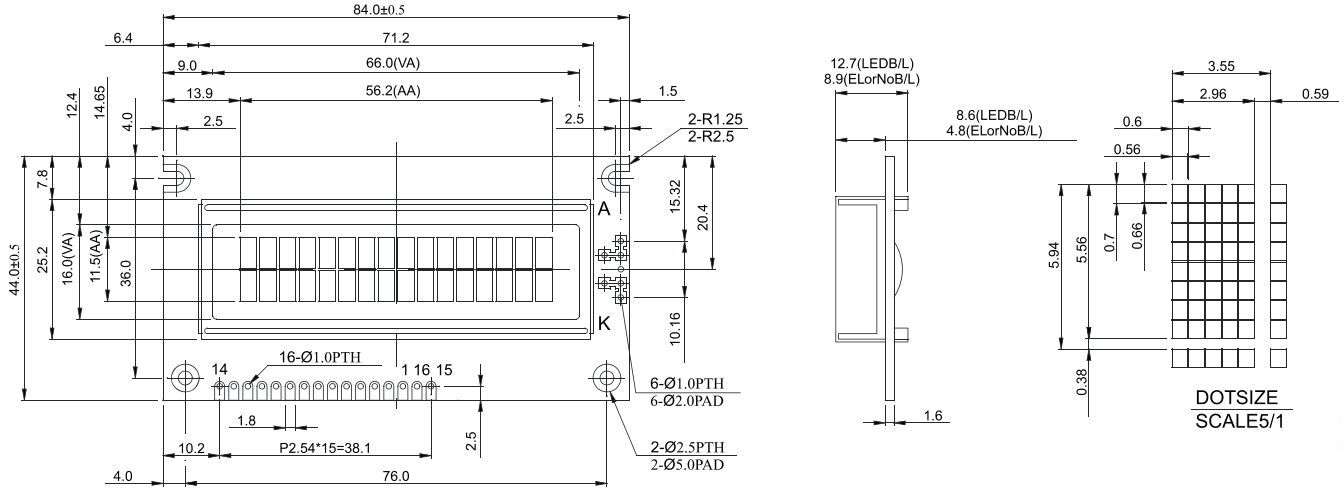
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Value		Unit
Input Voltage	Vdd	Vdd = +5V	5.0		V
Supply Current	Idd	Vdd = +5V	1.2		mA
LCD Driving Voltage	Vdd-Vo		TYP	*Option*	V
		70°C	3.6	***5.0***	
		25°C	4.0	***5.0***	
		-20°C	5.0	***5.0***	
LED Forward Voltage(yellow-green)	Vf	25°C	4.2		V
Array LED Forward Current	If	25°C	100		mA
Edge LED Forward Current	If	25°C	20		mA
EL Power Voltage	Vel	Vel=110Vac/400Hz			V

Dimension



BOLYMIN

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BC1602K1

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. Option: +3V single power supply
7. Option: negative voltage built-in

Mechanical Data

Item	Standard Value	Unit
Module Dimension	59.0 x 29.3	mm
Viewing Area	52.0 x 15.0	mm
Dot Size	0.45 x 0.54	mm
Character Size	2.54 x 4.67	mm

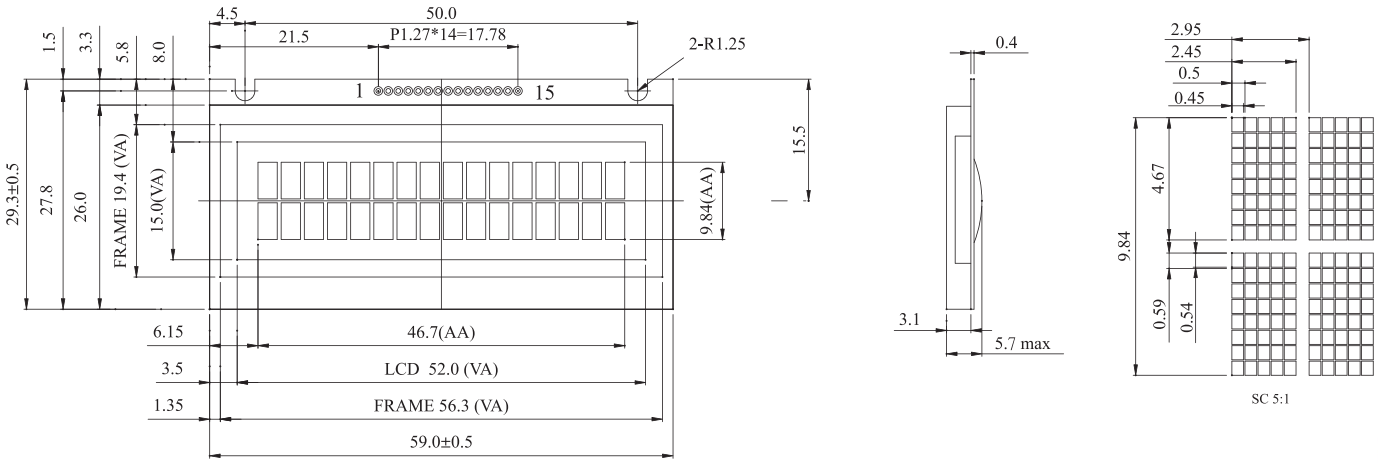
Pin Assignment

Pin	Symbol	Function
1	LED(-)	Power supply for B/L(-)
2	Vss	GND
3	Vdd	+5V
4	Vo	Contrast adjustment
5	RS	H/L register select signal
6	R/W	H/L read/write signal
7	E	H-->L enable signal
8~15	DB0~7	H/L data bus line

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	3.9	V
LED Forward Voltage (yellow-green)	Vf	25°C	2.1	V
LED Forward Current	If	25°C	40	mA

Dimension



BOLYMIN

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BC1602L

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. +5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 17/18
7. No Negative Voltage Option
8. DIP module

Mechanical Data

Item	Standard Value	Unit
Module Dimension	68.0 x 26.8	mm
View Area	61.0 x 19.0	mm
Dot Size	0.56 x 0.80	mm
Dot Pitch	2.96 x 6.68	mm

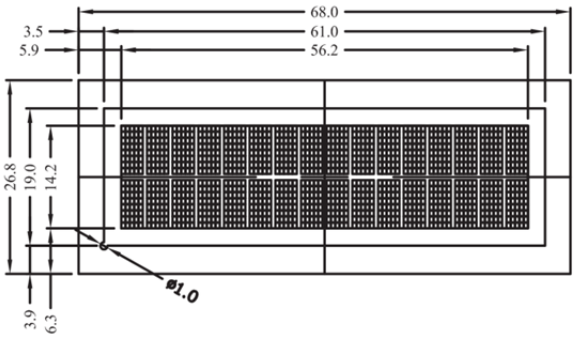
Pin Assignment

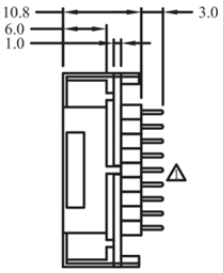
Pin	Symbol	Function
1	1VSS	GND
2	VDD	+5V
3	VO	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H àL enable signal
7~14	DB0~DB7	H/L data bus line
15	NC	No connection
16	NC	No connection
17	A	Power supply for B/L(+)
18	K	Power supply for B/L(GND)

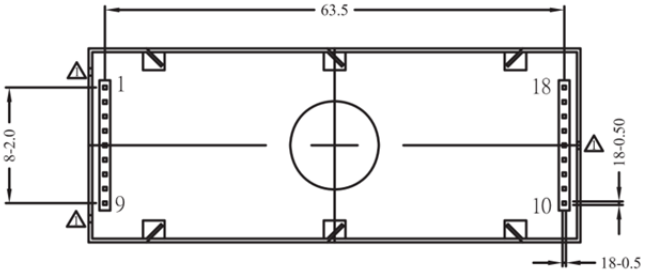
Electronic Characteristics

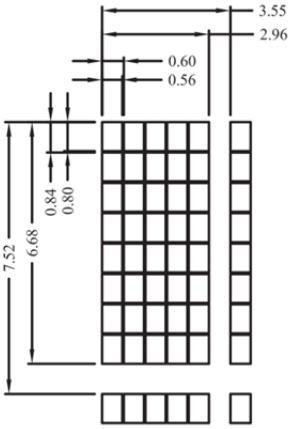
Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.5	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.0	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	150	mA

Dimension









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BC1604A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. +5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:15/16,or A/K or 1/2
7. Option: LED , EL B/L
8. Option: +3V single power supply
9. Option: Negative voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	87.0 x 60.0	mm
View Area	62.0 x 26.0	mm
Dot Size	0.55 x 0.55	mm
Dot Pitch	2.95 x 4.75	mm

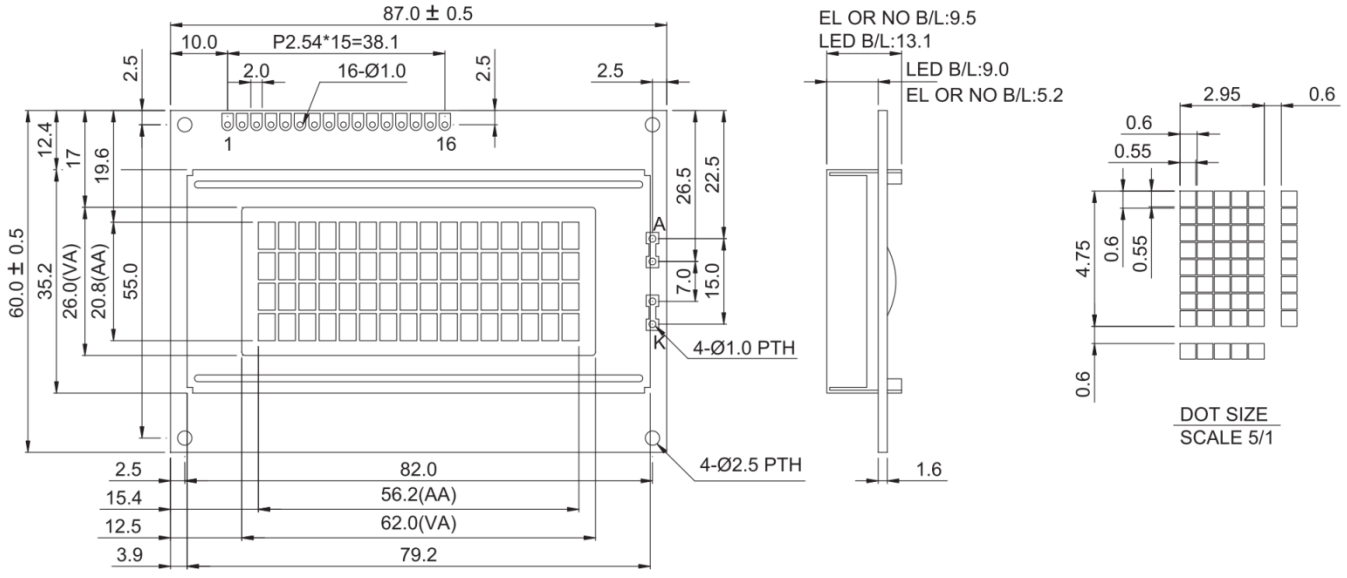
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power supply for B/L (+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	200	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



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BC1604AR

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller RW1063
4. +5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:15/16,or A/K or 1/2
7. Option: LED , EL B/L
8. Option: +3V single power supply
9. Option: Negative voltage
10. 4-line SPI interface only

Mechanical Data

Item	Standard Value	Unit
Module Dimension	87.0 x 60.0	mm
View Area	62.0 x 26.0	mm
Dot Size	0.55 x 0.55	mm
Dot Pitch	2.95 x 4.75	mm

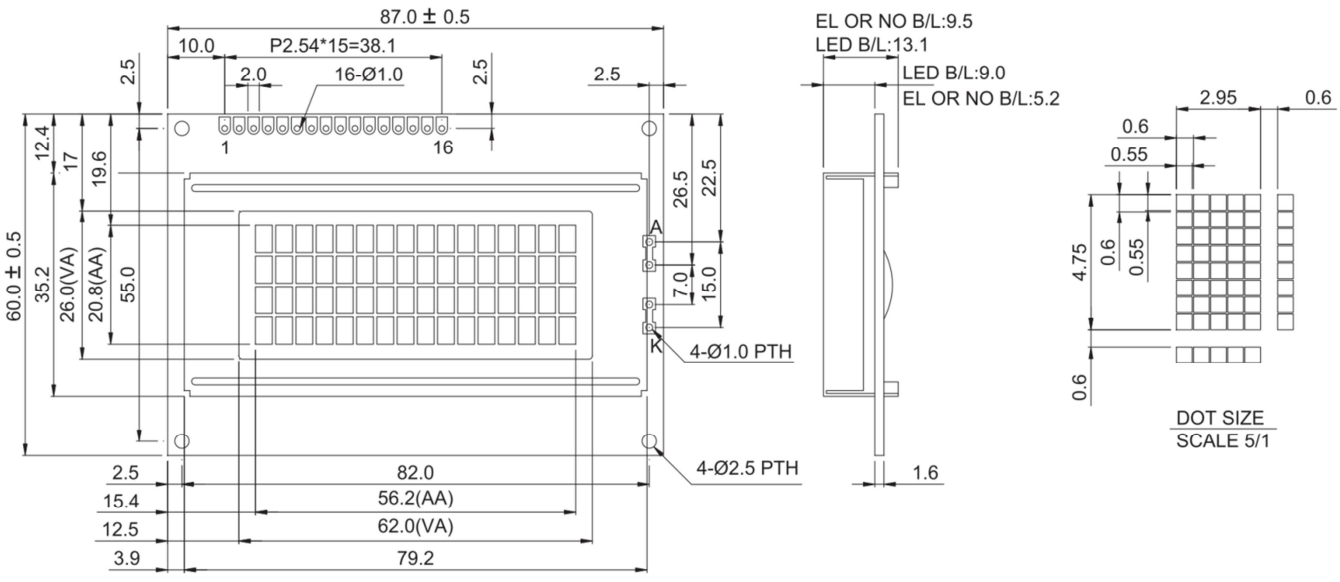
Pin Assignment

Pin	Symbol	Description
1	Vss	Ground
2	Vdd	+5V(+3V option)
3	Vo	Contrast control
4	RS	H/L register select signal.
5~11	NC	No connection.
12	CSB	Chip selection, active Low.
13	SCLK	Serial clock input
14	SID	Serial data input.
15	A	Power supply for B/L (+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	200	mA

Dimension



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BC1604AW

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller RW1063
4. +5V single power supply
5. 1/16 duty cycle
6. LED B/L pins:15/16,or A/K or 1/2
7. Option: LED , EL B/L
8. Option: +3V single power supply
9. Option: Negative voltage
10. I2C interface only

Mechanical Data

Item	Standard Value	Unit
Module Dimension	87.0 x 60.0	mm
View Area	62.0 x 26.0	mm
Dot Size	0.55 x 0.55	mm
Dot Pitch	2.95 x 4.75	mm

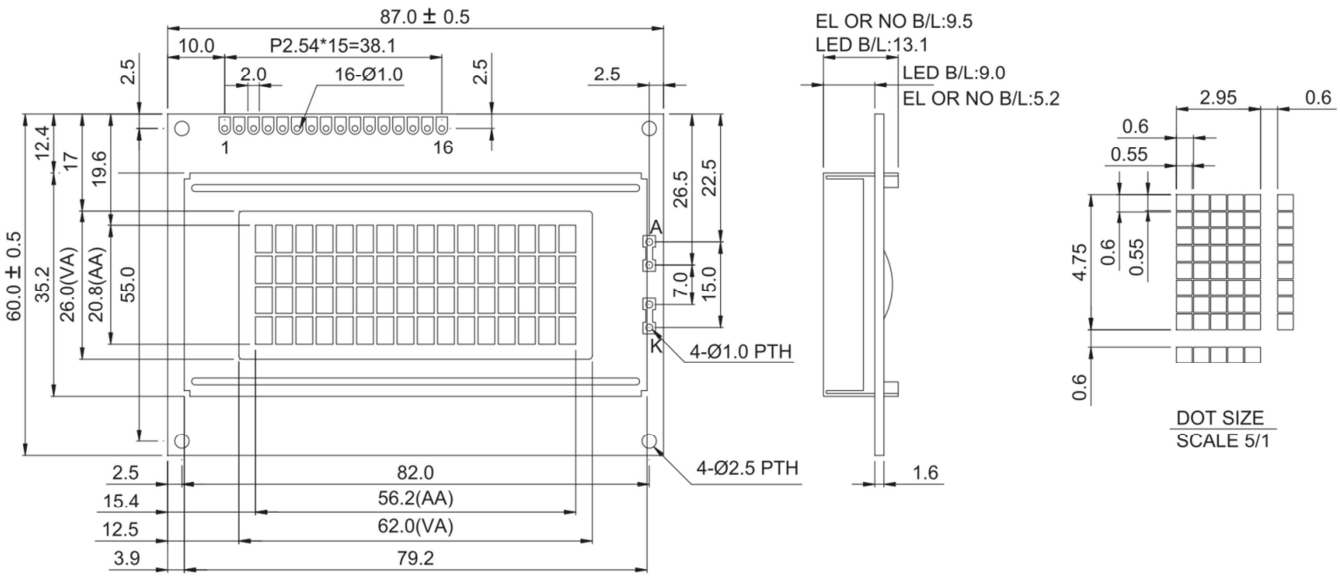
Pin Assignment

Pin	Symbol	Description
1	Vss	Ground
2	Vdd	+5V(+3V option)
3	Vo	Contrast control
4~6	NC	No connection.
7	SA0	Slave address, connect to Vdd or Vss.
8	SA1	
9~11	NC	No connection.
12	CSB	Chip selection, active Low.
13	SDA	Serial input data
14	SCL	Serial clock input
15	A	Power supply for B/L (+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	200	mA

Dimension



BOLYMIN

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BC2002A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED array/edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	116.0 x 37.0	mm
Viewing Area	85.0 x 18.6	mm
Dot Size	0.6 x 0.65	mm
Character Size	3.2 x 5.55	mm

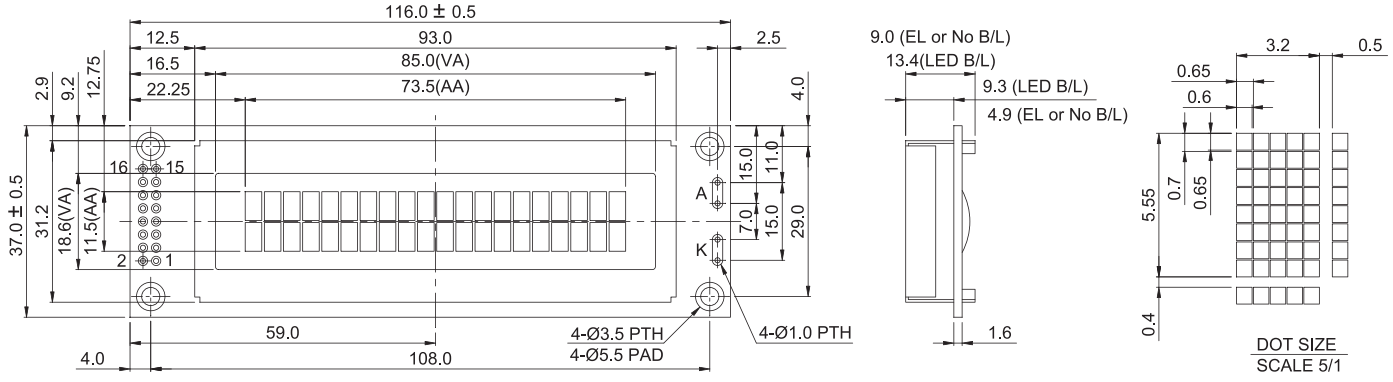
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.6	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.3	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	210	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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BC2002B

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	180.0 x 40.0	mm
Viewing Area	149.0 x 23.0	mm
Dot Size	1.12 x 1.12	mm
Character Size	6.0 x 9.66	mm

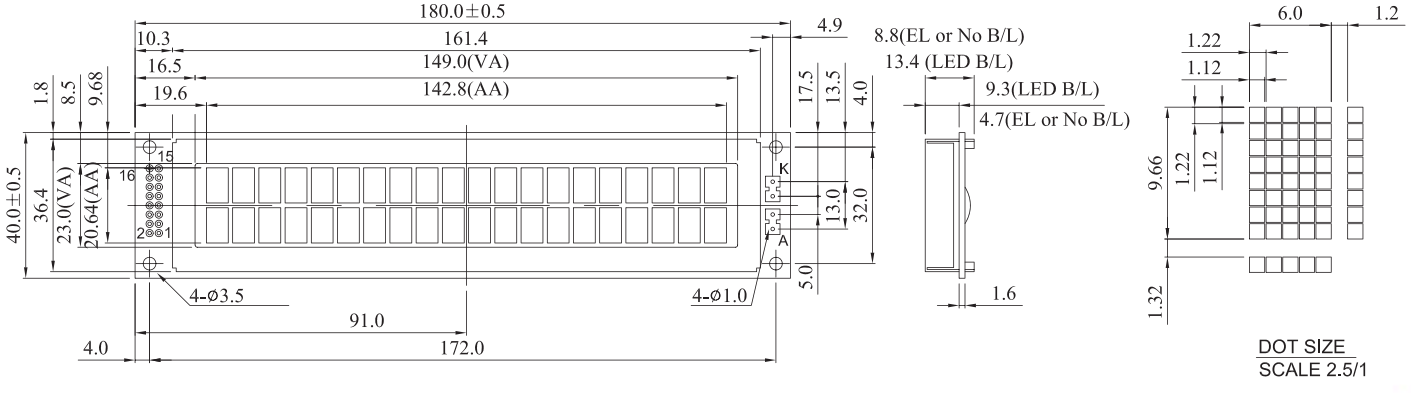
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.2	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	360	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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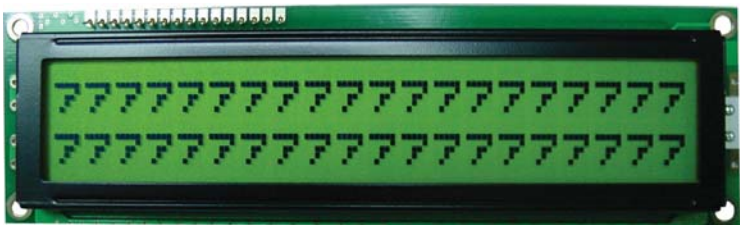
BC2002C

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage



Mechanical Data

Item	Standard Value	Unit
Module Dimension	146.0 x 43.0	mm
Viewing Area	123.0 x 23.0	mm
Dot Size	0.92 x 1.1	mm
Character Size	4.84 x 9.22	mm

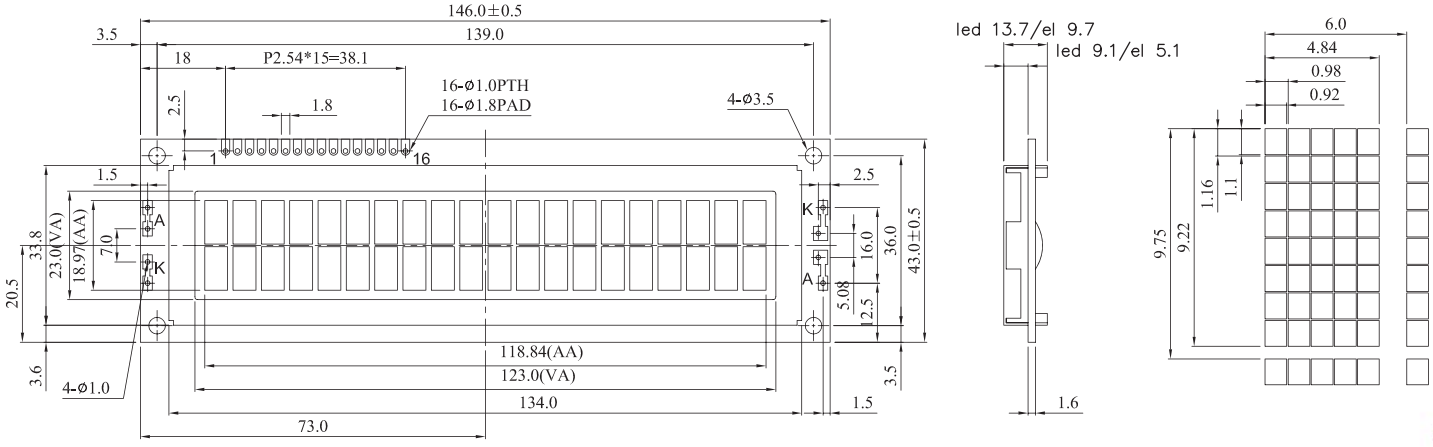
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V(+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.7	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	300	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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BC2004A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED array/edge B/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	98.0 x 60.0	mm
Viewing Area	77.0 x 25.2	mm
Dot Size	0.55 x 0.55	mm
Character Size	2.95 x 4.75	mm

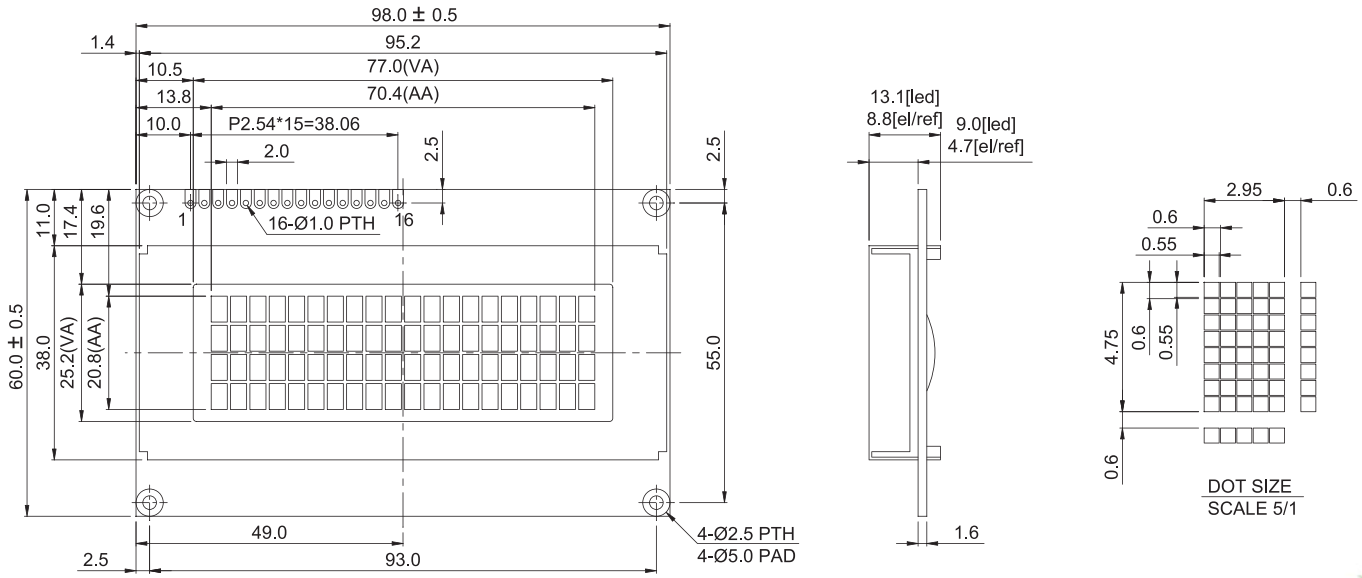
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A	Power supply for B/L (+)/
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.6	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	240	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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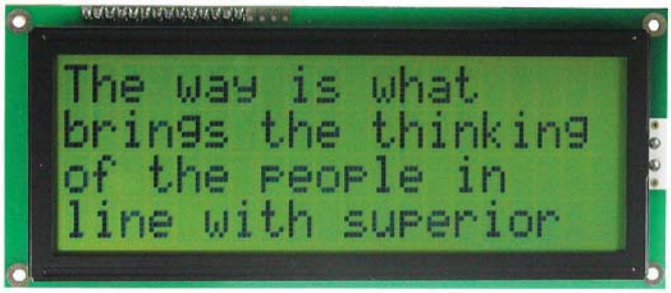
BC2004B

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage



Mechanical Data

Item	Standard Value	Unit
Module Dimension	146.0 x 62.5	mm
Viewing Area	123.5 x 43.0	mm
Dot Size	0.92 x 1.1	mm
Character Size	4.84 x 9.22	mm

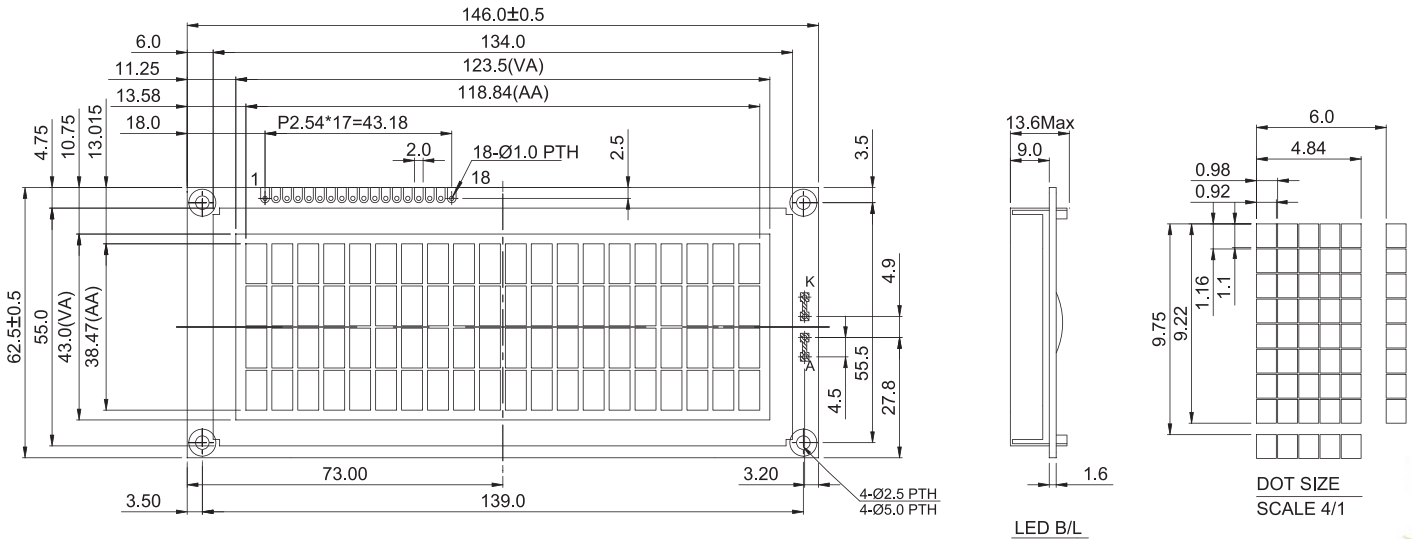
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A	Power supply for B/L (+)
16	K	Power supply for B/L (GND)
17	NC/Vee	NC/ Negative voltage output
18	NC	No connection

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.6	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.2	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	540	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



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BC2004H

Feature

1. 20 characters ×4 Lines
2. COB with metal frame
3. 5x7 dots with cursor, with icons
4. Built-in controller RW1073
5. +3.3V single power supply
6. 1/33 duty cycle
7. LED B/L pins:23/24

Mechanical Data

Item	Standard Value	Unit
Module Dimension	75.0 x 45.8	mm
View Area	61.0 x 38.0	mm
Dot Size	0.45 x 0.78	mm
Dot Pitch	0.48 x 0.81	mm

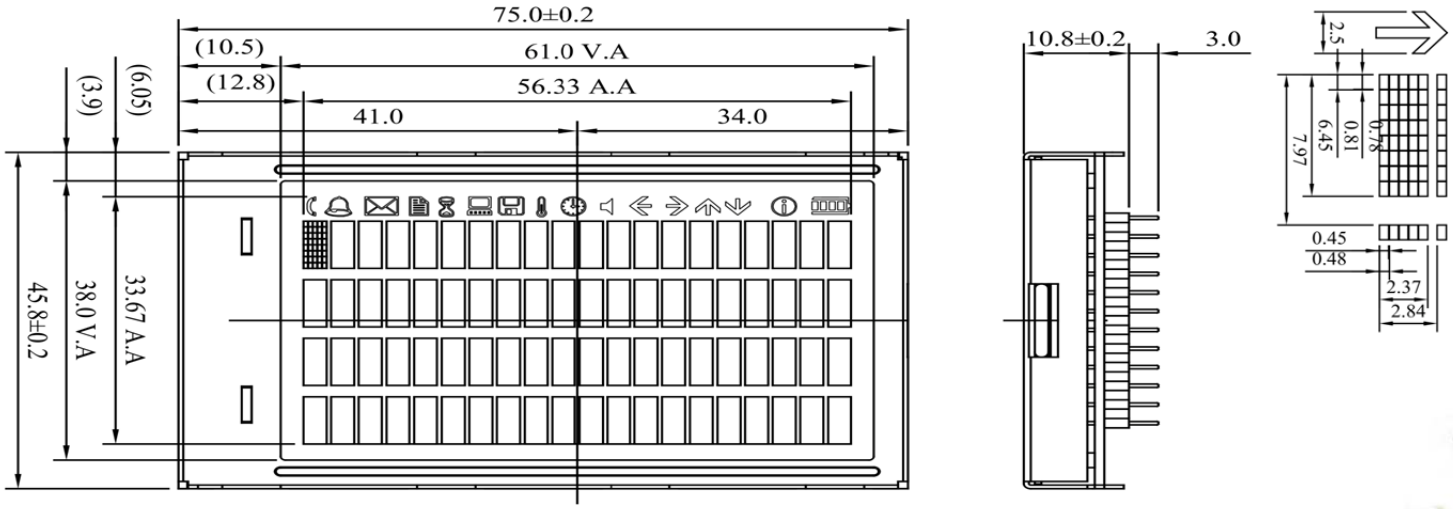
Pin Assignment

Pin	Symbol	Description
1	VSS	Ground
2	VDD	Supply Voltage for logic
3	VCI	Operating voltage for LCD
4	/RES	System reset pin. Active low
5	RS	Command/data
6	R/W	H:Read L:Write
7	E	Chip enable signal
8~13	NC	Not used
14	VSS	Ground
15~22	D0~D7	Data bus line
23	A	Power supply B/L (+)
24	K	Power supply B/L (-)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Supply Voltage(VDD)	VDD	VDD=3.3V	3.3	V
Supply Current	IDD	VDD=3.3V	2.5	mA
Supply Voltage(VCI)	VCI	25℃	3.0	V
LED Forward Voltage(white)	VF	25℃	3.2	V
LED Forward Current	IF	25℃	52	mA

Dimension



BOLYMIN

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BC2004I

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller RW1073
4. +3.3V single power supply
5. 1/33 duty cycle
6. LED B/L pins: 17/18
7. DIP module

Mechanical Data

Item	Standard Value	Unit
Module Dimension	68.0 x 26.8	mm
View Area	61.0 x 19.0	mm
Dot Size	0.44 x 0.44	mm
Dot Pitch	2.32 x 3.73	mm

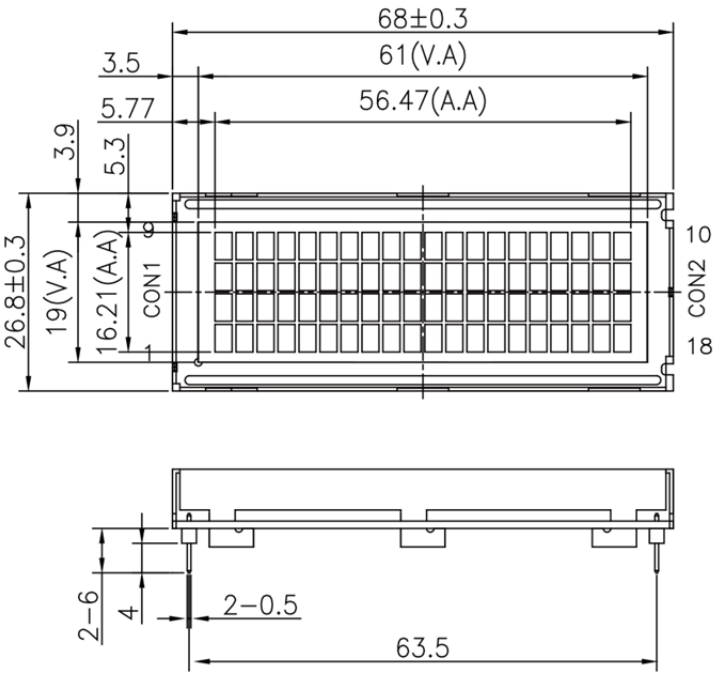
Pin Assignment

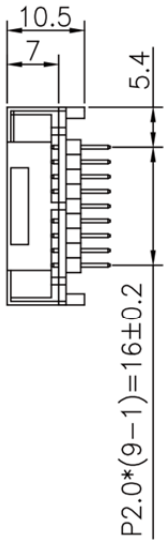
Pin	Symbol	Function
1	VSS	GND
2	VDD	+3.3V
3	VO	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H/L enable signal
7~14	DB0~DB7	H/L data bus line
15	NC	No connection
16	/RES	Reset signal
17	A	Power supply for B/L(+)
18	K	Power supply for B/L(GND)

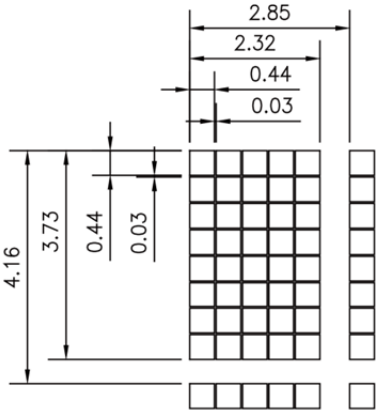
Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	VDD		3.3	V
Supply Current	IDD		1.5	mA
LCD Forward Voltage	VLCD	25℃	6.0	V
LED Forward Voltage	VF	25℃	3.1	V
LED Forward Current	IF	25℃	45	mA

Dimension







BOLYMIN

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BC2402A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED array, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	118.0 x 36.0	mm
Viewing Area	94.5 x 16.0	mm
Dot Size	0.6 x 0.65	mm
Character Size	3.2 x 5.55	mm

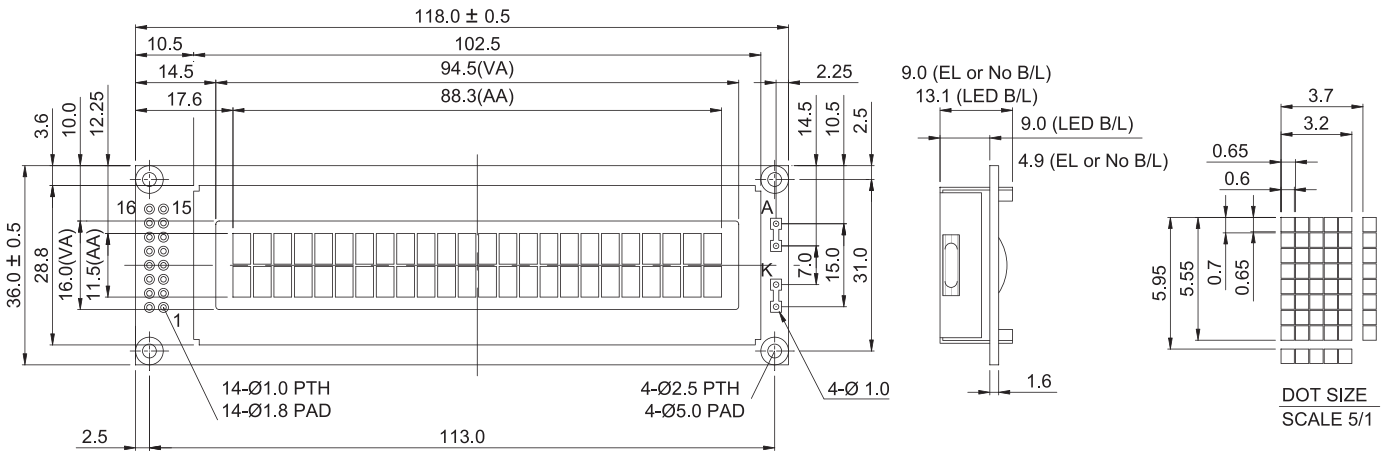
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power supply for B/L (+)/
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.2	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	190	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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BC4002A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 15/16, or A/K, or 1/2
7. Option: LED arrayB/L, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage

Mechanical Data

Item	Standard Value	Unit
Module Dimension	182.0 x 33.5	mm
Viewing Area	154.4 x 16.5	mm
Dot Size	0.6 x 0.65	mm
Character Size	3.2 x 5.55	mm

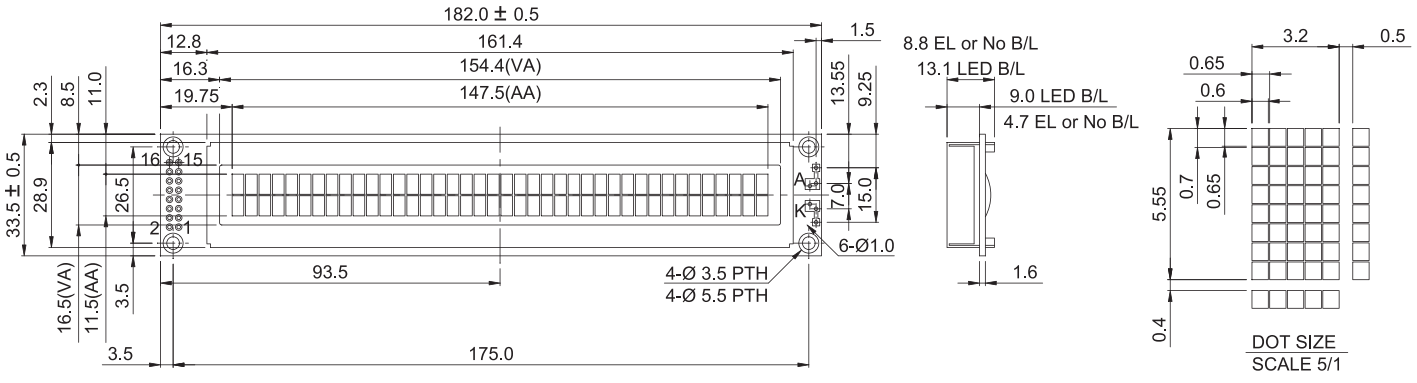
Pin Assignment

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+5V (+3V option)
3	Vo	Contrast adjustment
4	RS	H/L register select signal
5	R/W	H/L read/write signal
6	E	H --> L enable signal
7~14	DB0~7	H/L data bus line
15	A/Vee	Power Supply for B/L(+)/ Negative voltage output
16	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.2	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.3	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	280	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension



BOLYMIN

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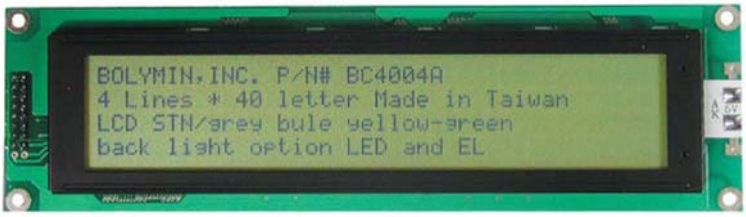
BC4004A

Feature

1. COB with metal frame
2. 5x7 dots with cursor
3. Built-in controller ST7066 or equivalent
4. + 5V single power supply
5. 1/16 duty cycle
6. LED B/L pins: 17/18, or A/K, or 13/14
7. Option: LED, EL B/L
8. Option: +3V single power supply
9. Option: Negative Voltage



Mechanical Data

Item	Standard Value	Unit
Module Dimension	190.0 x 54.0	mm
Viewing Area	147.0 x 29.5	mm
Dot Size	0.5 x 0.55	mm
Character Size	2.78 x 4.89	mm

Pin Assignment

Pin	Symbol	Function
1~8	DB7~0	Data bus line
9	E1	H --> L enable signal ic1
10	R/W	H/L read/write
11	RS	register select
12	Vo	contrast adjustment
13	Vss	GND
14	Vdd	+5V (+3V option)
15	E2	H --> L enable signal ic2
16	NC/Vee	NC/Negative voltage output
17	A	Power supply for B/L (+)
18	K	Power supply for B/L (GND)

Electronic Characteristics

Item	Symbol	Condition	Typical Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0	V
Supply Current	Idd	Vdd = +5V	1.6	mA
LCD Driving Voltage	Vdd-Vo	25°C	4.5	V
LED Forward Voltage (yellow-green)	Vf	25°C	4.2	V
LED Forward Current	If	25°C	600	mA
EL Power Voltage	Vel	Vel=110Vac/400Hz		V

Dimension