

PC1602A-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T _A = 25 °C, Vdd=5V±0.25V					
Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	3.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

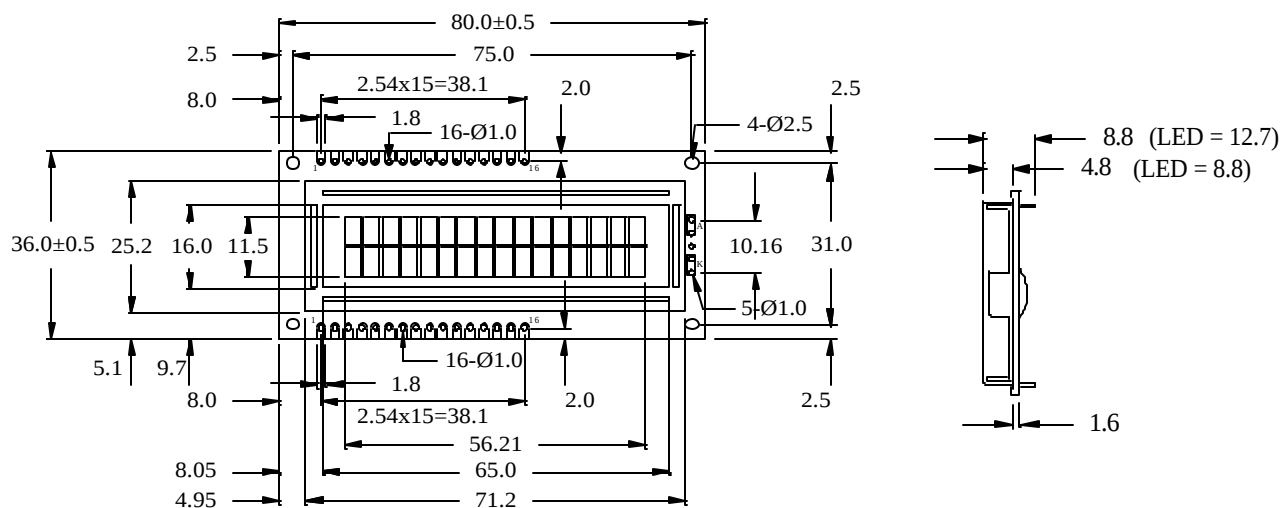
Interface Pin Connection					
No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications			
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

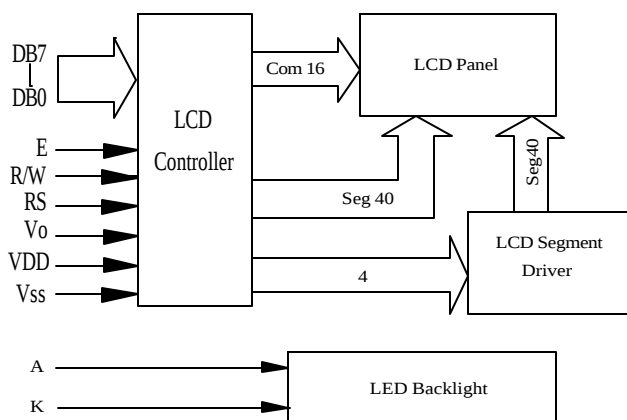
Mechanical Specifications					
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	80.0W x 36.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

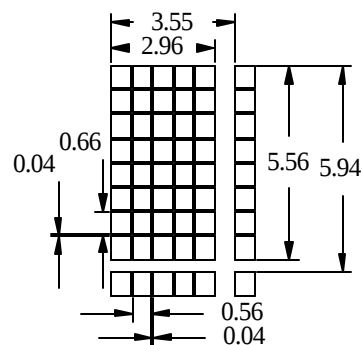
PC1602A-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602B-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T _A = 25 °C, Vdd=5V±0.25V					
Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	3.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

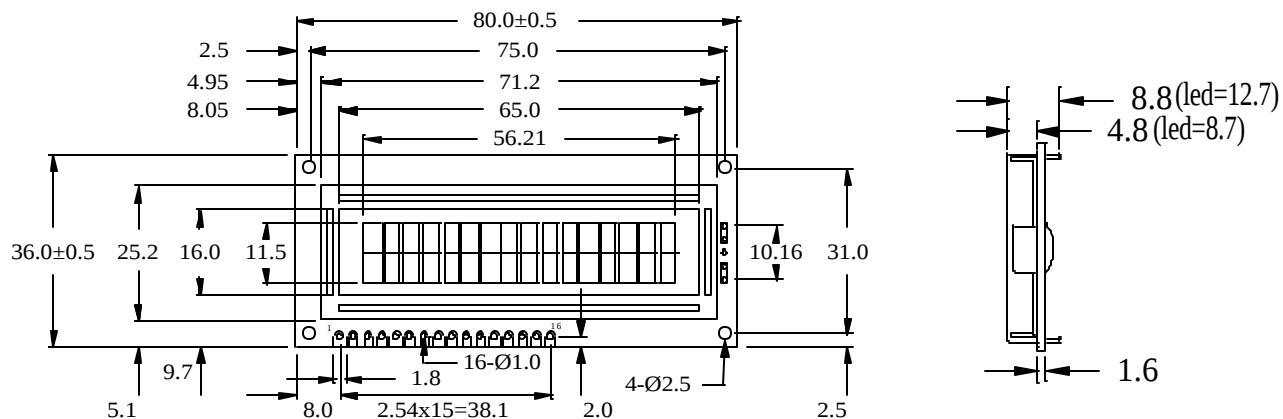
Interface Pin Connection					
No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications			
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

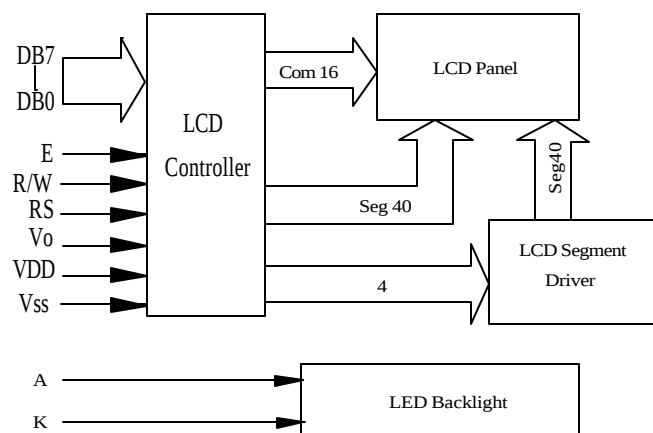
Mechanical Specifications					
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	80.0W x 36.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

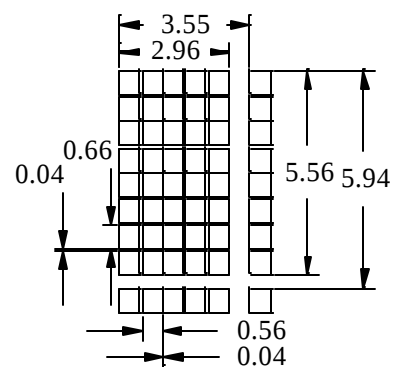
PC1602B-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602C-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

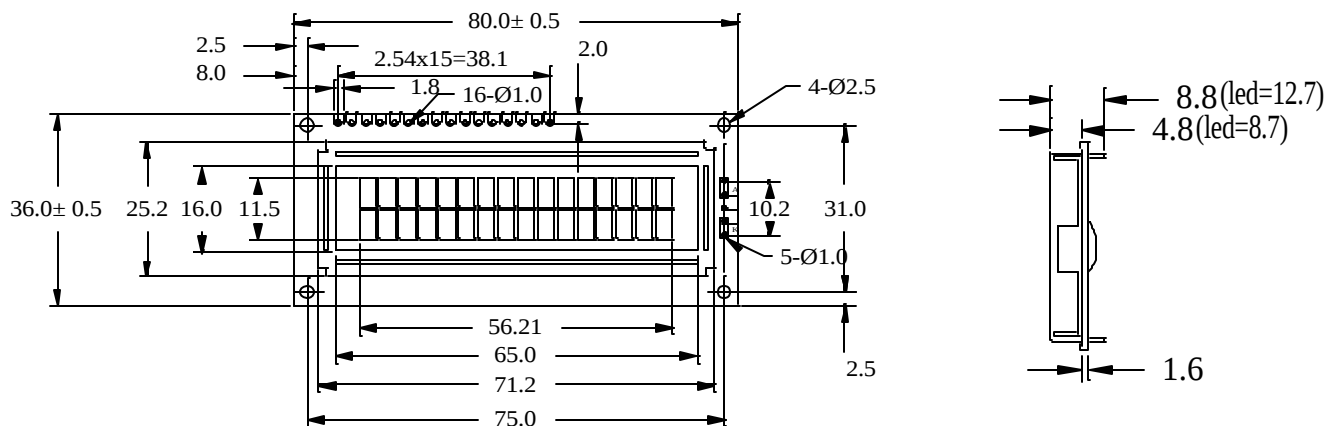
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications

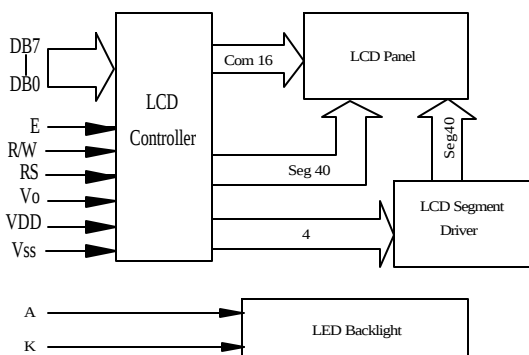
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	80.0W x 36.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

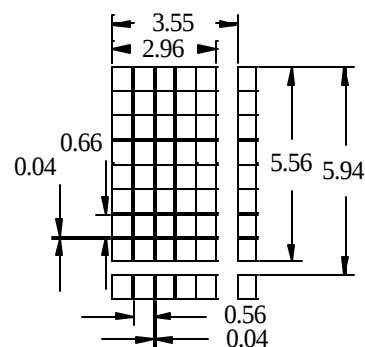
PC1602C-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602D-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T _A = 25 °C, Vdd=5V+0.25V					
Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

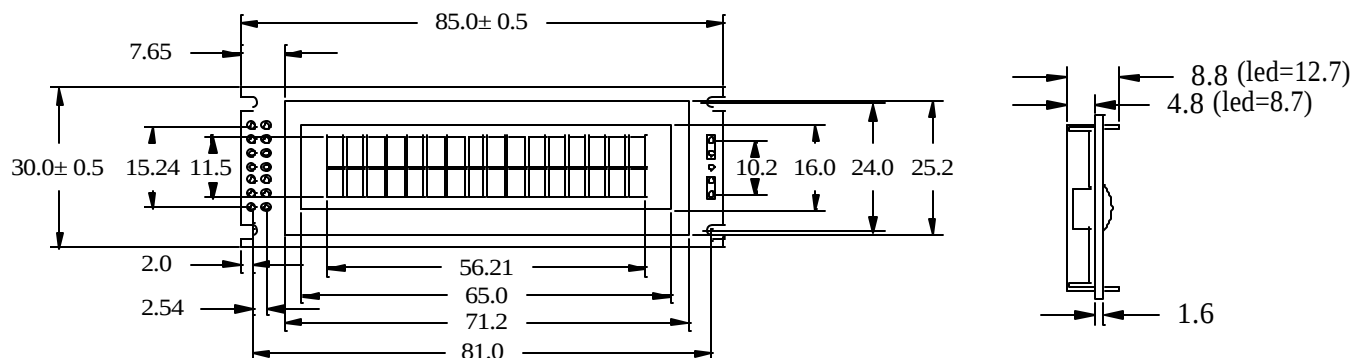
Interface Pin Connection					
No	Symbol	Function	No	Symbol	Function
1	Vdd	Power Supply (+5V)	9	DB2	Data Bus Line 2
2	Vss	Power Supply (GND)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications			
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

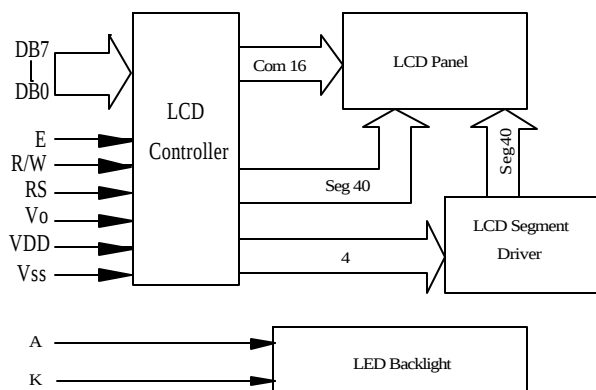
Mechanical Specifications					
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	85.0W x 30.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

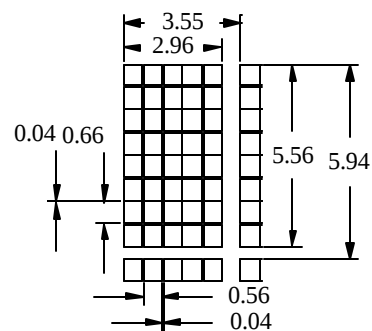
PC1602D-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602EA-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd + 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T _A = 25 °C, Vdd=5V±0.25V					
Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

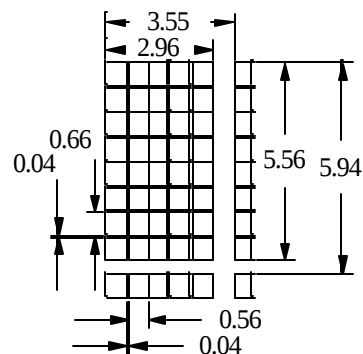
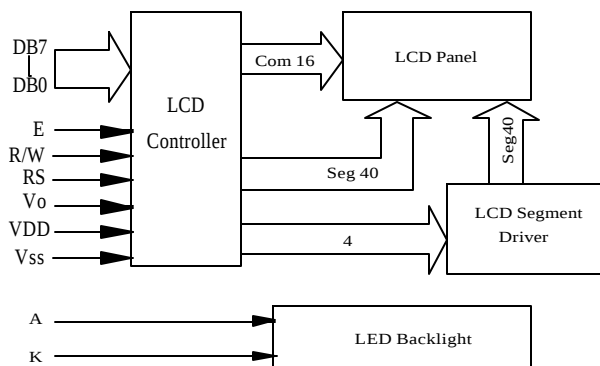
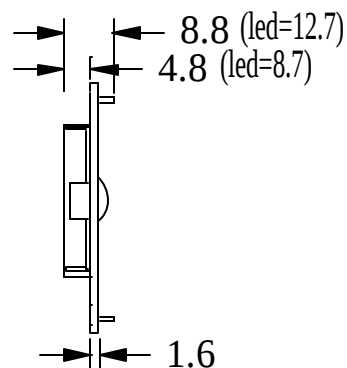
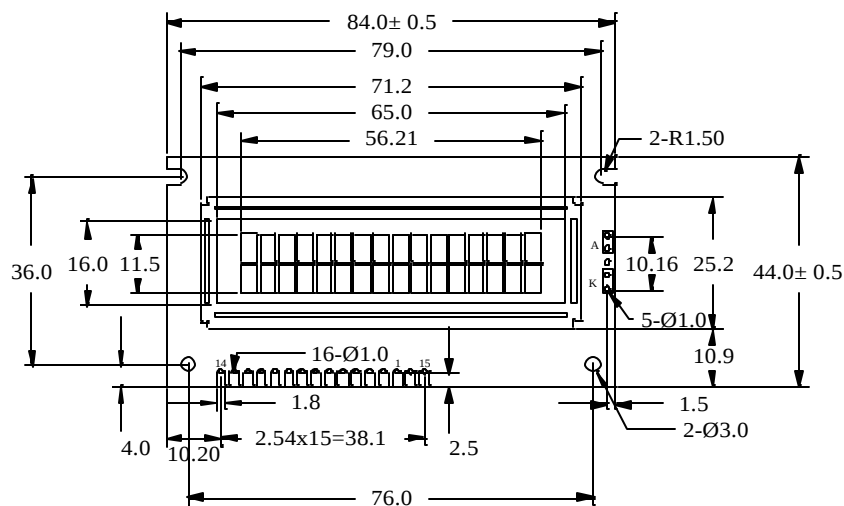
Interface Pin Connection					
No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications			
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications					
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	84.0W x 44.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602EA-L (16x2) Character LCD Display



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602E-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T _A = 25 °C, Vdd=5V±0.25V					
Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

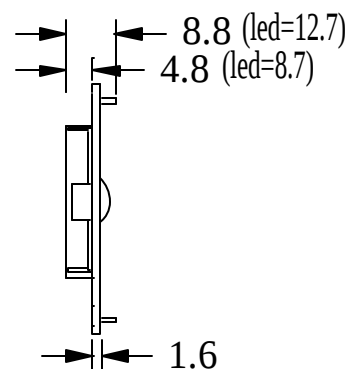
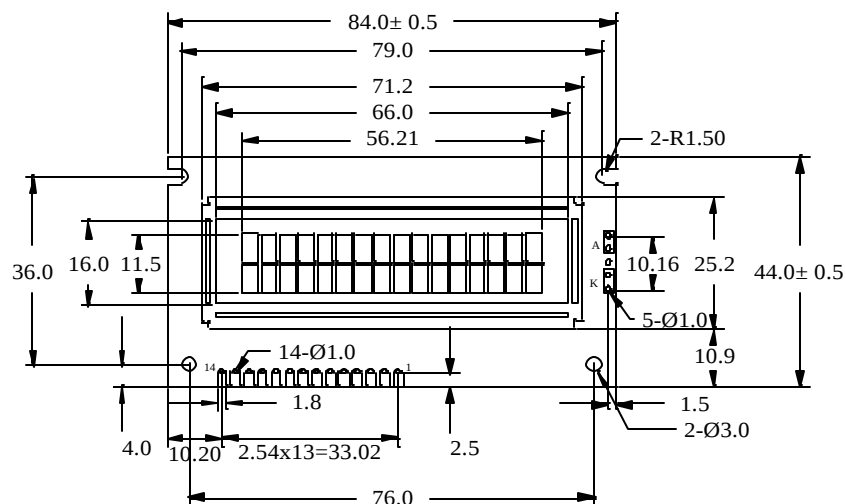
Interface Pin Connection					
No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications			
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

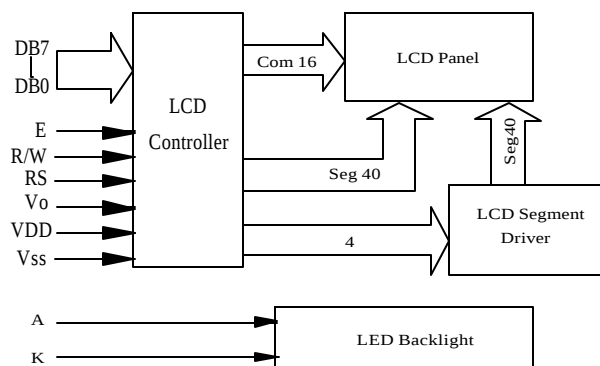
Mechanical Specifications					
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	84.0W x 44.0H x 8.8T (BL12.7T)	66.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

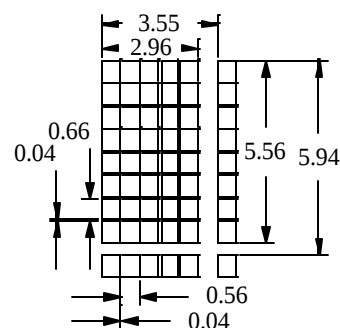
PC1602E-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602F-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

*16 Character, 2 Line
*View Angle 12H or 6H
*TN or STN Fluid
*Extended Temperature Range available
*Several Character Types available
*LED or EL Backlight available

Electrical Characteristics at T_A = 25 °C, Vdd=5V+0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

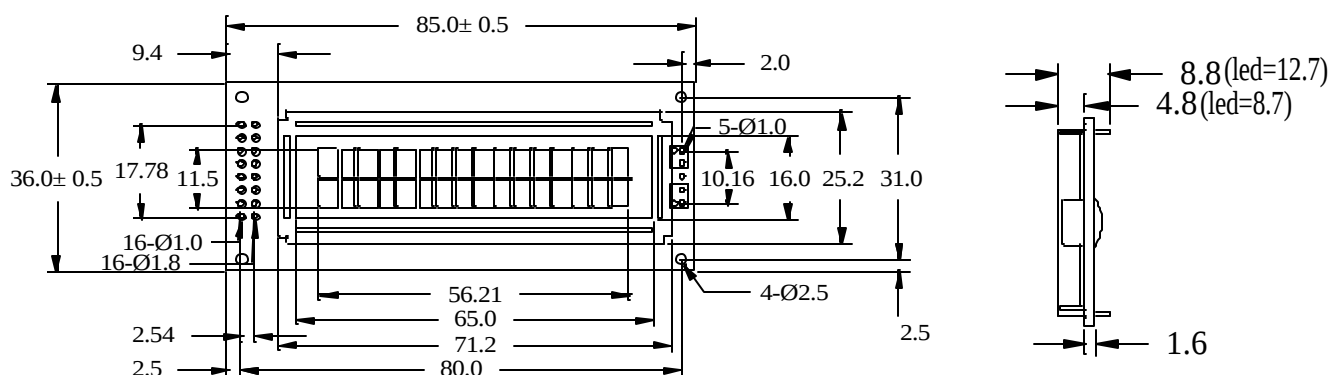
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications

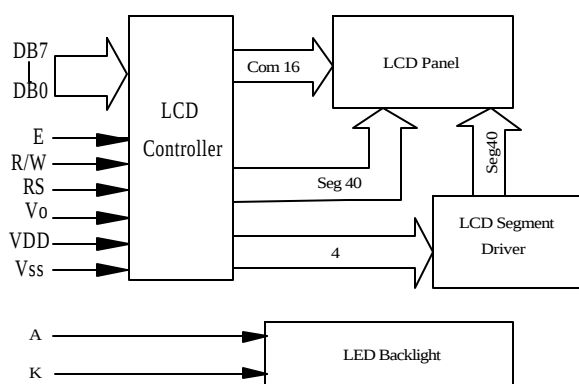
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	85.0W x 36.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

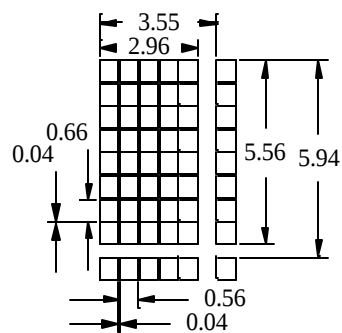
PC1602F-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602G-O (16x2) Character LCD Display

Features *16 Character, 2 Line *View Angle 12H or 6H *TN or STN Fluid *Extended Temperature Range available *Several Character Types available	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 15.0	Vdd + 0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd - Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

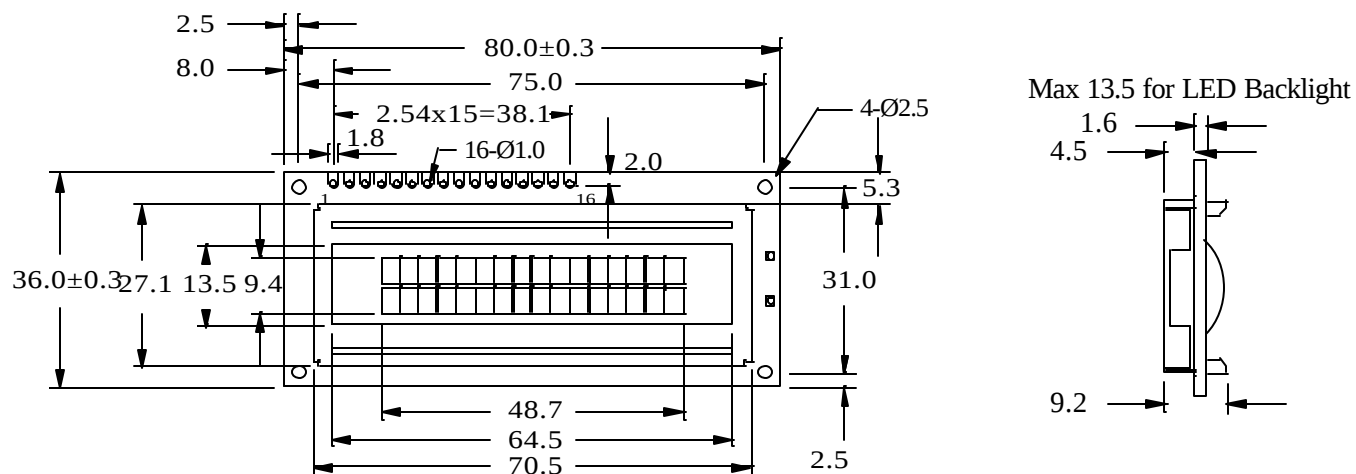
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	185mA (Typ)	777mW (Typ)	570nm (Typ)

Mechanical Specifications

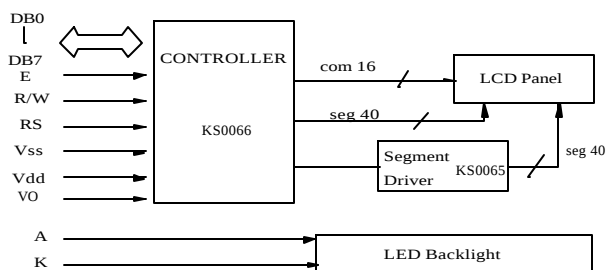
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	80.0W x 36.0H x 9.2T (BL13.5T)	64.5W x 13.5H	2.95W x 4.35H	3.05W x 5.05H	0.55W x 0.5H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

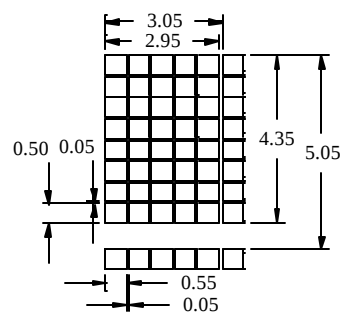
PC1602G-O (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602H-O (16x2) Character LCD Display

Features *16 Character, 2 Line *View Angle 12H or 6H *TN or STN Fluid *Extended Temperature Range available *Several Character Types available	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 15.0	Vdd + 0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd - Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

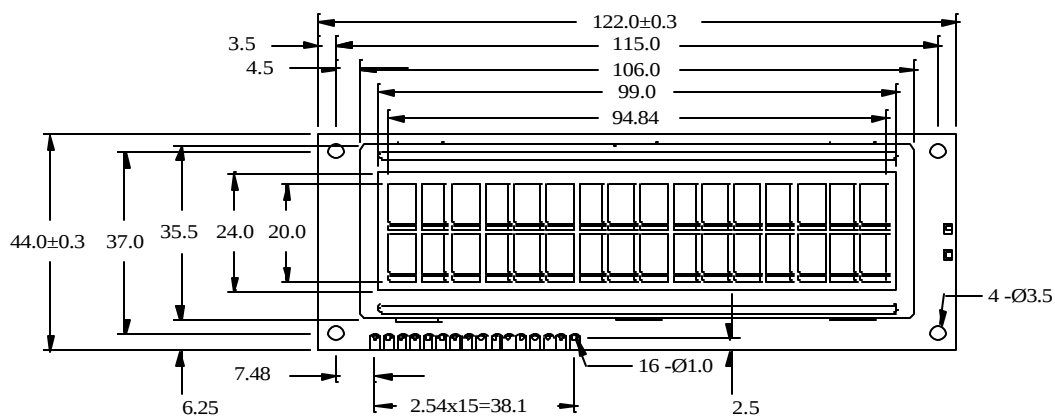
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	355mA (Typ)	1500mW (Typ)	570nm (Typ)

Mechanical Specifications

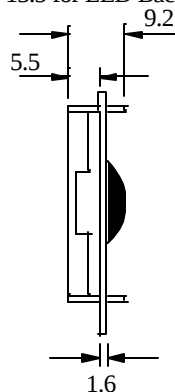
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	122W x 44.0H x 9.2T (BL13.5T)	99.0W x 24.0H	4.84W x 9.66H	6.0W x 10.34H	0.92W x 1.1H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

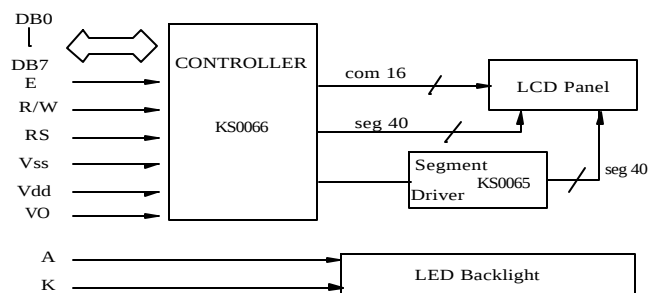
PC1602H-O (16x2) Character LCD Display



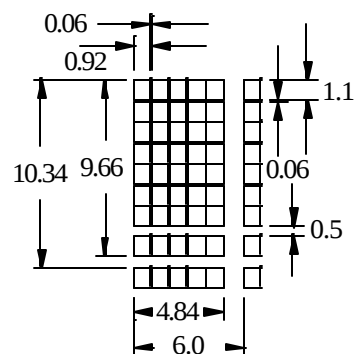
Max 13.5 for LED Backlight



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602I-O (16x2) Character LCD Display

Features *16 Character, 2 Line *View Angle 12H or 6H *TN or STN Fluid *Extended Temperature Range available *Several Character Types available	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 15.0	Vdd + 0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd - Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

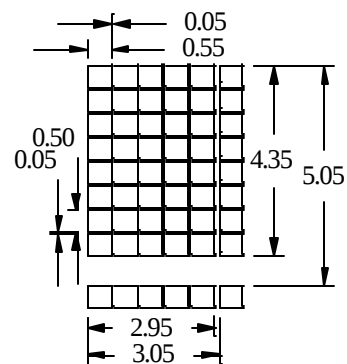
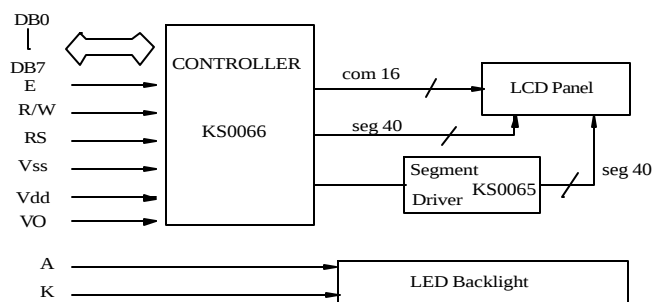
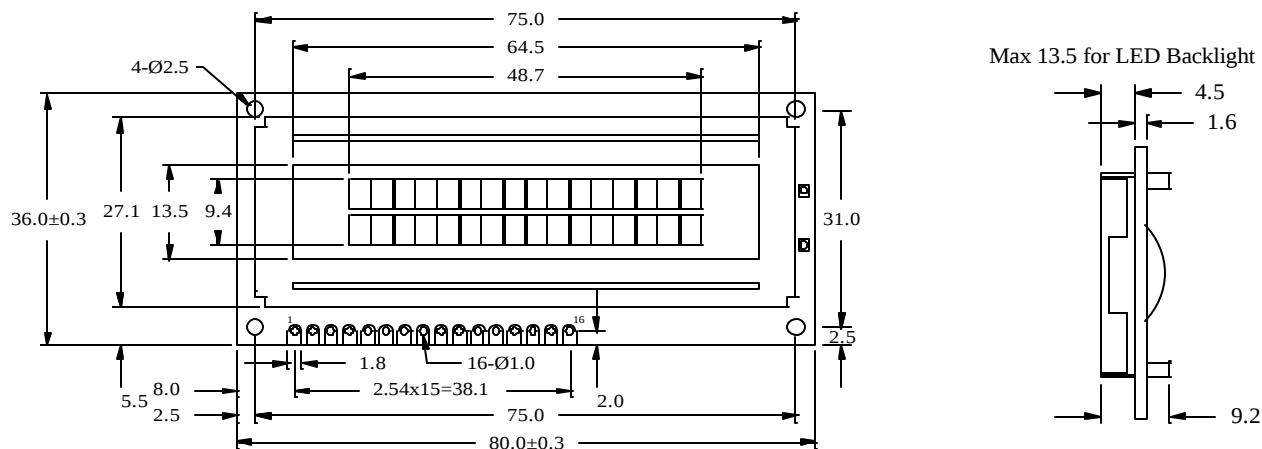
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	185mA (Typ)	777mW (Typ)	570nm (Typ)

Mechanical Specifications

Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	80.0W x 36.0H x 9.2T (BL13.5T)	64.5W x 13.5H	2.95W x 4.35H	3.05W x 5.05H	0.55W x 0.5H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602I-O (16x2) Character LCD Display



PC1602J-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

*16 Character, 2 Line
*View Angle 12H or 6H
*TN or STN Fluid
*Extended Temperature Range available
*Several Character Types available
*LED or EL Backlight available

Electrical Characteristics at T_A = 25 °C, Vdd=5V+0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

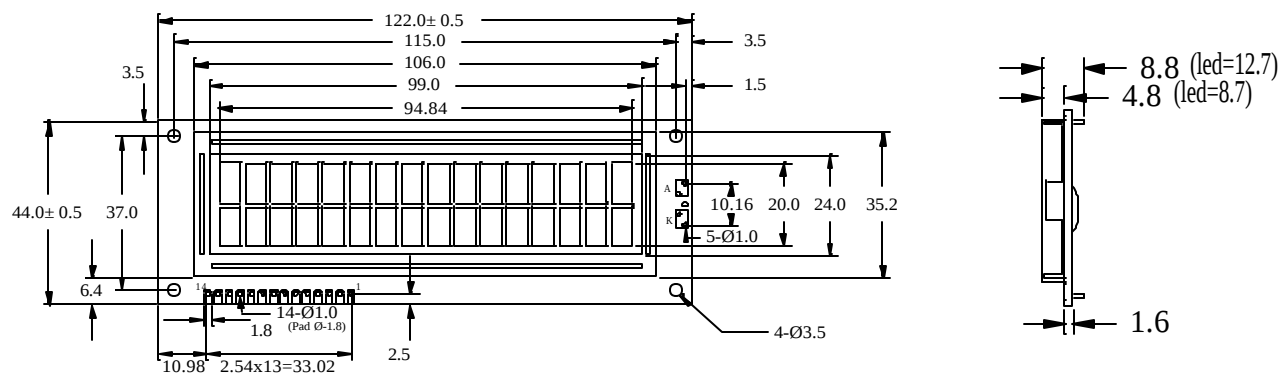
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	390mA (Max)	1800mW (Max)	570nm (Typ)

Mechanical Specifications

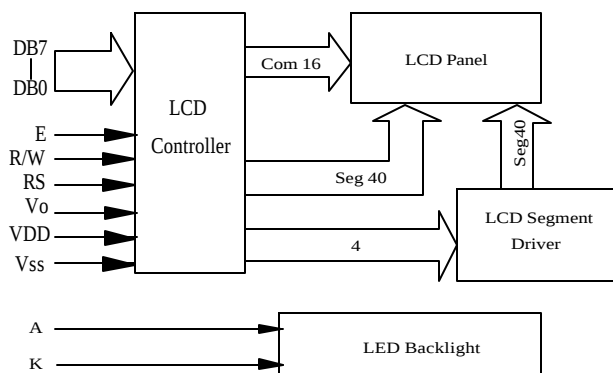
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	122.0W x 44.0H x 8.8T (BL13.0T)	99.0W x 24.0H	4.84W x 9.63H	6.0W x 10.37H	0.92W x 1.16H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

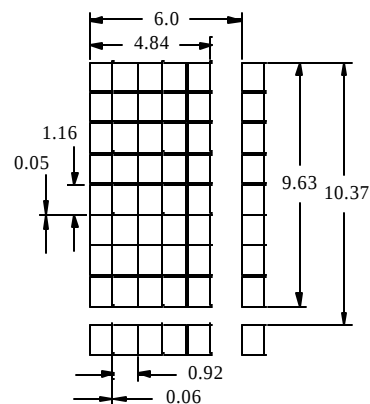
PC1602J-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602K-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

*16 Character, 2 Line
*View Angle 12H or 6H
*TN or STN Fluid
*Extended Temperature Range available
*Several Character Types available
*LED or EL Backlight available

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications

Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	84.0W x 44.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602L-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

*16 Character, 2 Line
*View Angle 12H or 6H
*TN or STN Fluid
*Extended Temperature Range available
*Several Character Types available
*LED or EL Backlight available

Electrical Characteristics at T_A = 25 °C, Vdd=5V+0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

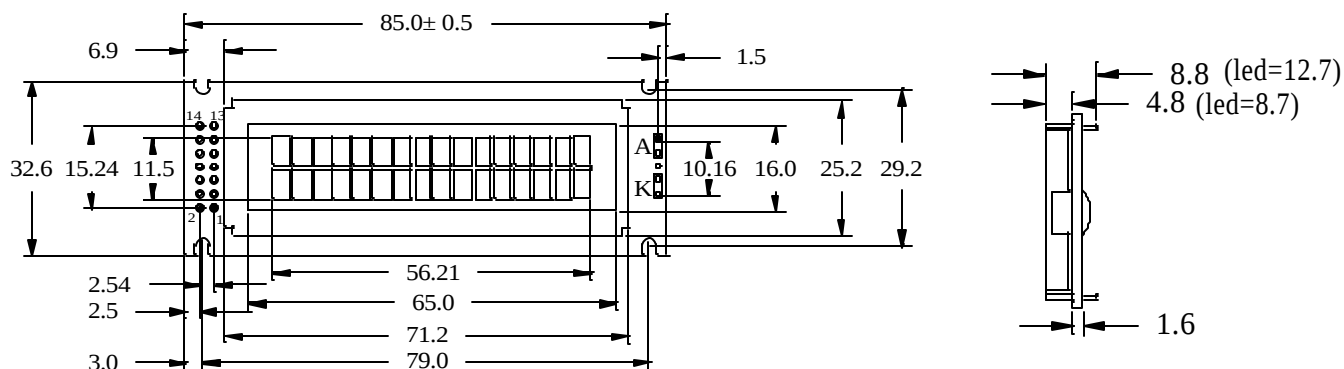
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications

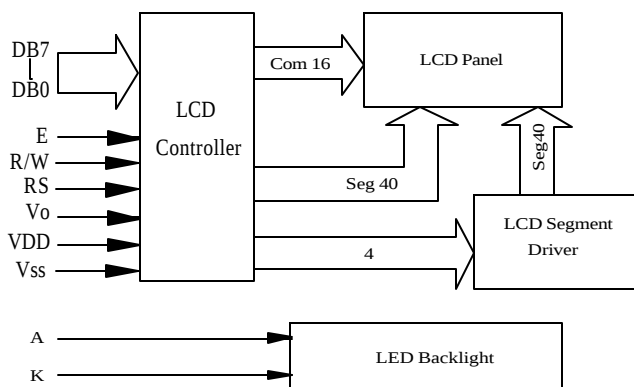
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	85.0W x 32.6H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

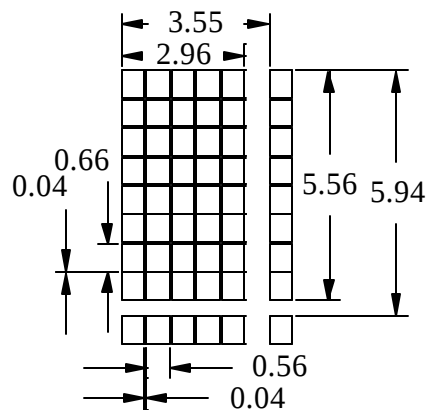
PC1602L-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602M-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

*16 Character, 2 Line
*View Angle 12H or 6H
*TN or STN Fluid
*Extended Temperature Range available
*Several Character Types available
*LED or EL Backlight available

Electrical Characteristics at T_A = 25 °C, Vdd=5V+0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

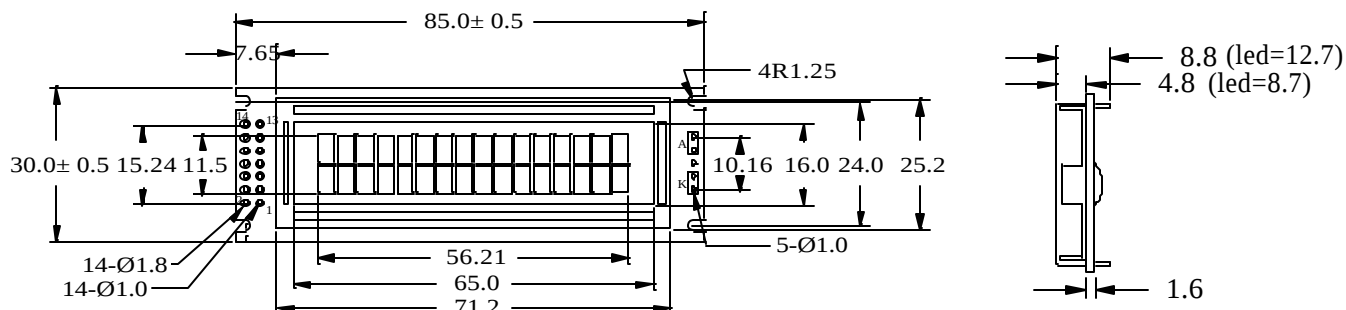
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	195mA (Max)	900mW (Max)	570nm (Typ)

Mechanical Specifications

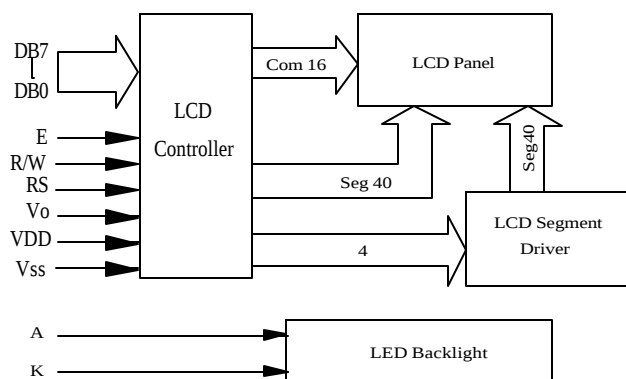
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	85.0W x 30.0H x 8.8T (BL12.7T)	65.0W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

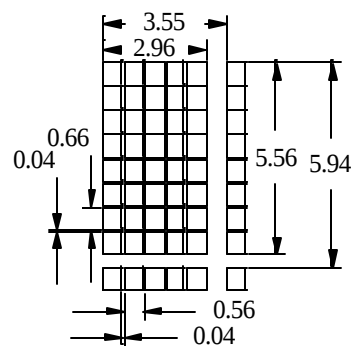
PC1602M-L (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602N-L (16x2) Character LCD Display

Features	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 0.3	Vdd 12.0	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd-Vss	4.7	5.0	5.3	V
Supply Current	Idd	—	2.0	4.0	mA
LCD Driving Voltage	Vdd - Vo	4.2	4.5	4.8	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

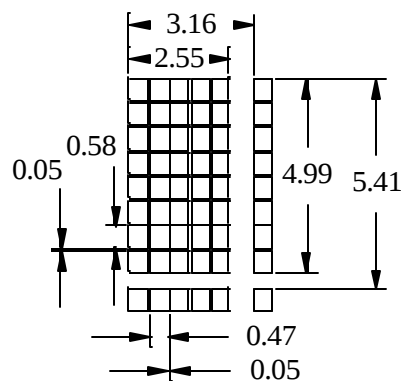
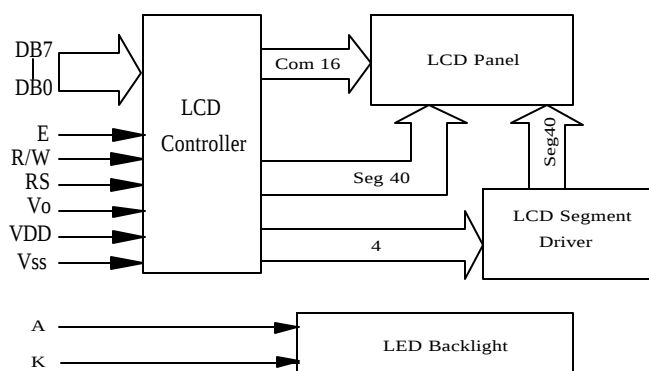
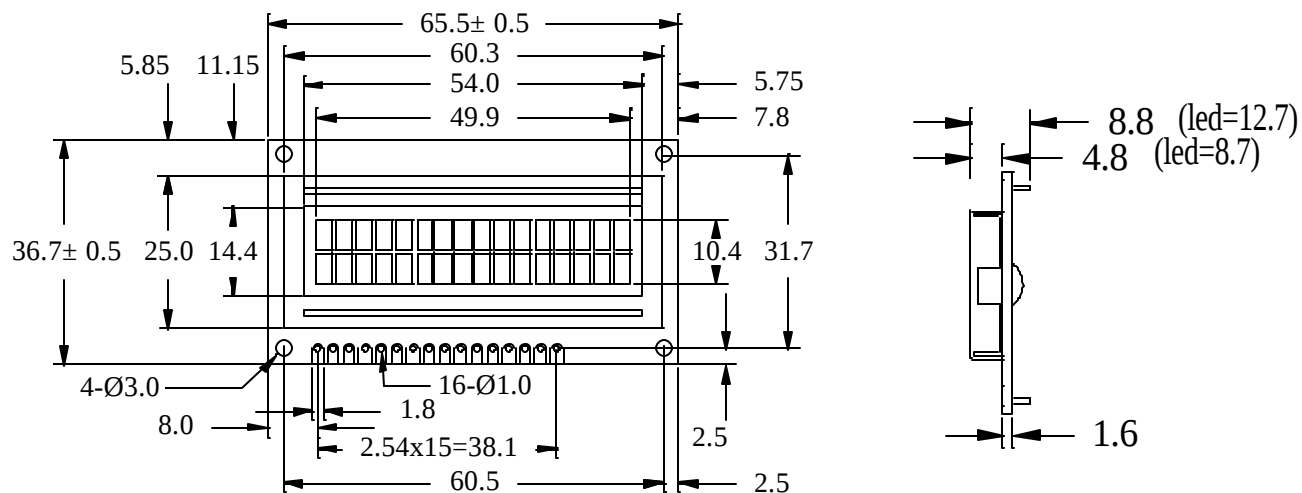
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	mA (Max)	mW (Max)	570nm (Typ)

Mechanical Specifications

Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	65.5W x 36.7H x 9.6T (BL12.7T)	54.0W x 14.4H	2.55W x 4.99H	3.16W x 5.41H	0.47W x 0.58H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602N-L (16x2) Character LCD Display



All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

PC1602O-O (16x2) Character LCD Display

Features *16 Character, 2 Line *View Angle 12H or 6H *TN or STN Fluid *Extended Temperature Range available *Several Character Types available	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 15.0	Vdd + 0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd - Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

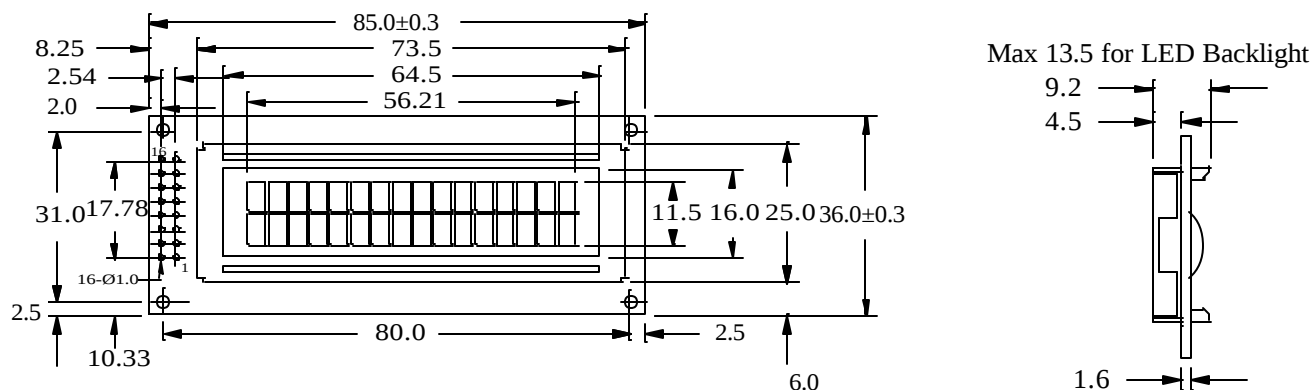
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	170mA (Typ)	720mW (Typ)	570nm (Typ)

Mechanical Specifications

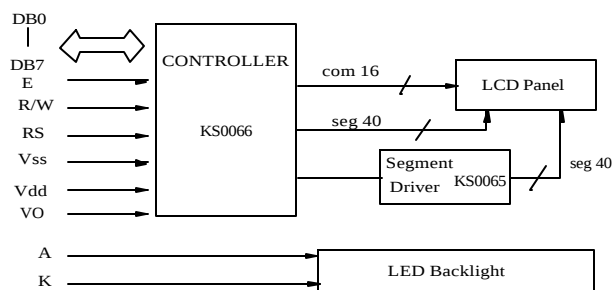
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	85.0W x 36.0H x 9.2T (BL13.5T)	64.5W x 16.0H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

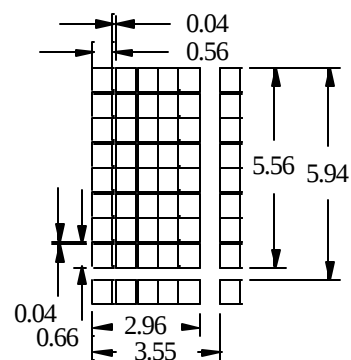
PC1602O-O (16x2) Character LCD Display



LCD Block Diagram



Dot Layout



PC1602P-O (16x2) Character LCD Display

Features *16 Character, 2 Line *View Angle 12H or 6H *TN or STN Fluid *Extended Temperature Range available *Several Character Types available	Absolute Maximum Ratings at T _A = 25 °C				
	Item	Symbol	Min	Max	Unit
	Power Supply (Logic)	Vdd	-0.3	7.0	V
	Power Supply (LCD)	Vo	Vdd - 15.0	Vdd + 0.3	V
	Input Voltage	Vi	- 0.3	Vdd	V
	Operating Temperature (Standard)	Topr	0	50	°C
	Storage Temperature (Standard)	Tstg	- 20	70	°C
	Extended Operating Temperature	Topr	- 20	70	°C
	Extended Storage Temperature	Tstg	- 30	80	°C

Electrical Characteristics at T_A = 25 °C, Vdd=5V±0.25V

Item	Symbol	Min	Typ	Max	Unit
Power Supply (Logic)	Vdd	4.5	5.0	5.5	V
Supply Current	Idd	2.0	—	—	mA
LCD Driving Voltage	Vdd - Vo	—	—	13.0	V
Input Voltage “H”	Vih	2.2	—	Vdd	V
Input Voltage “L”	Vil	—	—	0.6	V
Output Voltage “H”	Voh	2.4	—	—	V
Output Voltage “L”	Vol	—	—	0.4	V

Interface Pin Connection

No	Symbol	Function	No	Symbol	Function
1	Vss	Power Supply (GND)	9	DB2	Data Bus Line 2
2	Vdd	Power Supply (+5V)	10	DB3	Data Bus Line 3
3	Vo	Contrast Adjust	11	DB4	Data Bus Line 4
4	RS	Instruction/Register Select	12	DB5	Data Bus Line 5
5	R/W	Read/Write	13	DB6	Data Bus Line 6
6	E	Enable Signal	14	DB7	Data Bus Line 7
7	DB0	Data Bus Line 0	15	A	Power Supply for LED Backlight (+)
8	DB1	Data Bus Line 1	16	K	Power Supply for LED Backlight (-)

LED Backlight Specifications

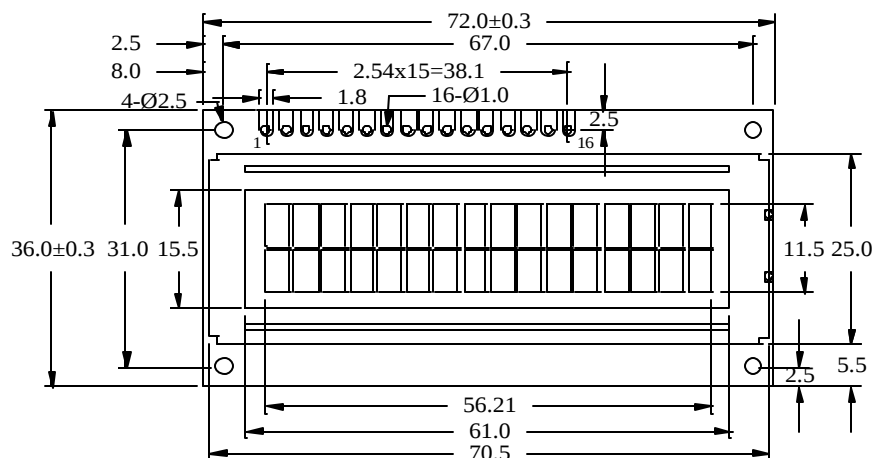
Forward Voltage	Forward Current	Power Dissipation	Peak Wavelength
4.2V (Typ)	165mA (Typ)	693mW (Typ)	570nm (Typ)

Mechanical Specifications

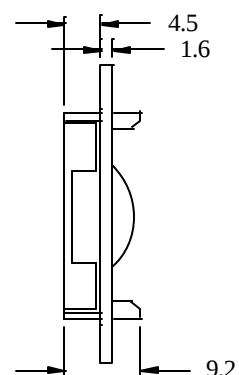
Item	Overall Size	Viewing Area	Character Size	Character Pitch	Dot Size
Specifications	72.0W x 36.0H x 9.2T (BL13.5T)	61.0W x 15.5H	2.96W x 5.56H	3.55W x 5.94H	0.56W x 0.66H

All dimensions are in mm. Tolerance is ± 0.3 Unless otherwise specified

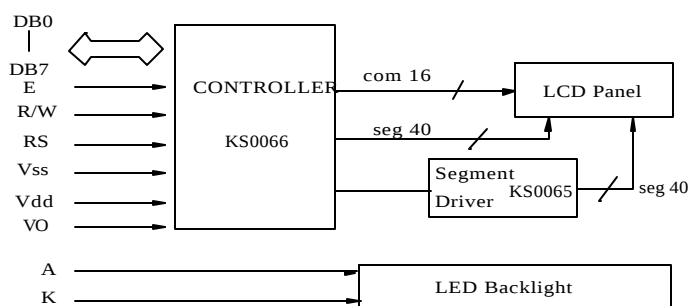
PC1602P-O (16x2) Character LCD Display



Max 13.5 for LED Backlight



LCD Block Diagram



Dot Layout

