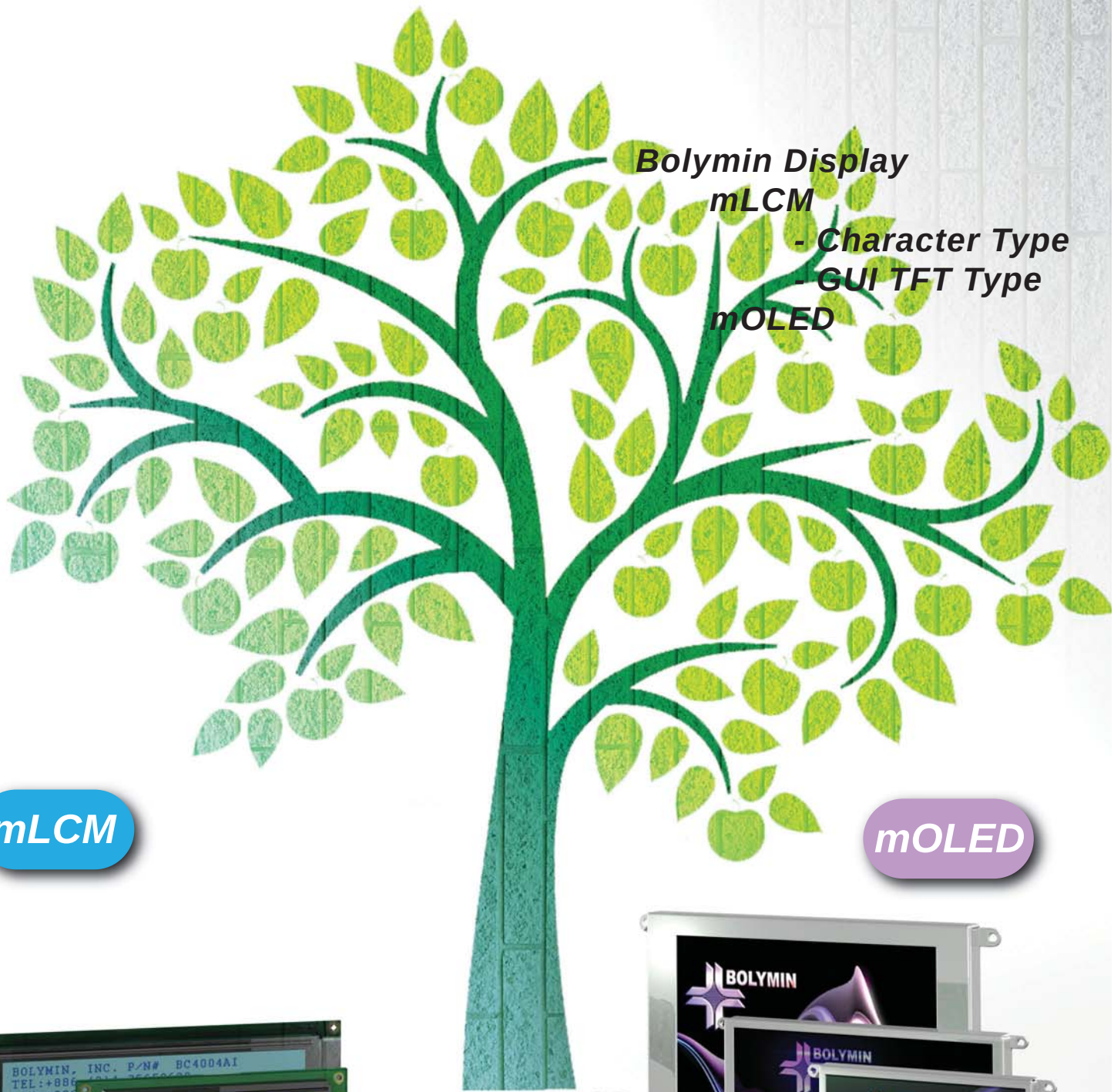


Smart Display



Bolymin Display
mLCM

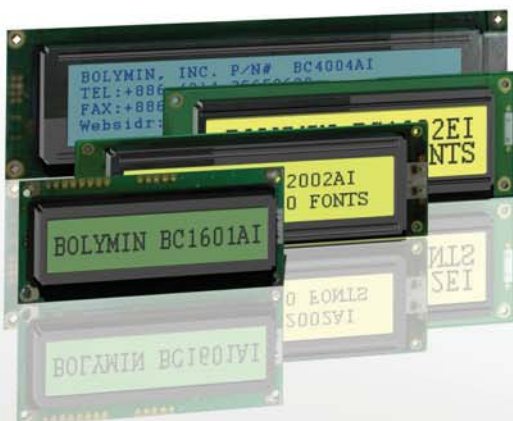
- Character Type

- GUI TFT Type

mOLED

mLCM

mOLED

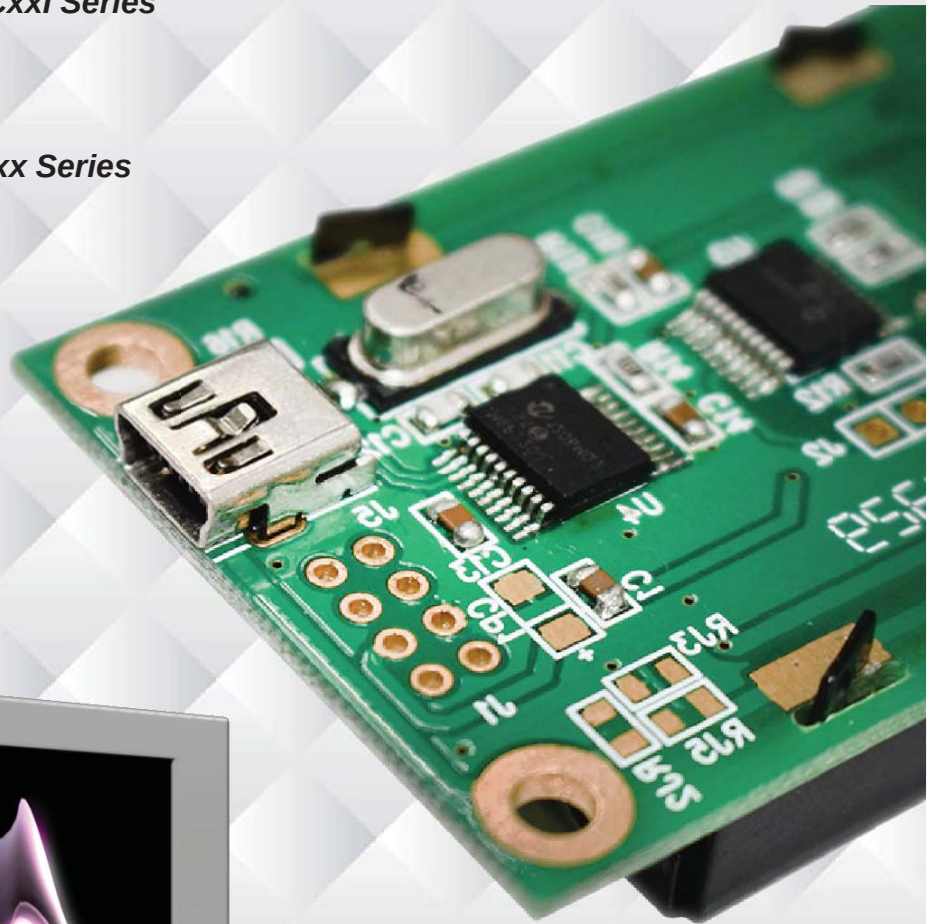


mLCM

*Multi-interface Liquid Crystal Module - (BCxxI Series)
- (BE7xx Series)*

Character Type - BCxxI Series

GUI TFT Type - BE7xx Series



BCxxI Series Overview

01-BC1601AI
02-BC1602AI
03-BC1602EI

04-BC1604AI
05-BC2002AI
06-BC2002BI

07-BC2004AI
08-BC2402AI
09-BC4002AI
10-BC4004AI

mLCM-Character Type

- (*BCxxI Series*)



Features

- Multi-interface : I2C/SPI/RS232 (USB optional)
- COB with metal frame
- 5x7 dots with cursor
- Built-in controller ST7066 or equivalent
- 1/16 duty cycle
- Backlight : LED EDGE/ARRAY
- 5V single power supply
- Contrast/Backlight adjustment by program
- RoHS Compliant

Specifications



BC1601AI

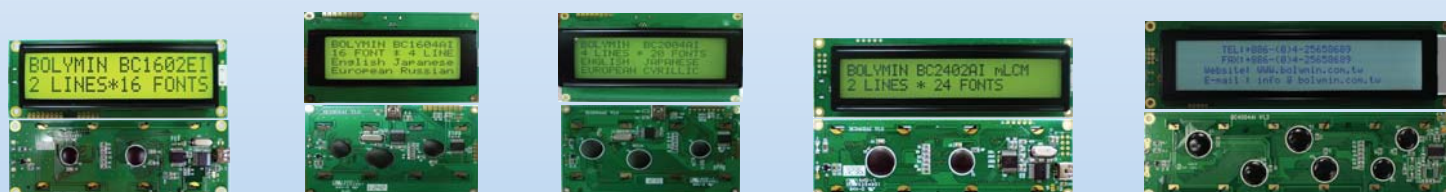
BC1602AI

BC2002AI

BC2002BI

BC4002AI

Model	BC1601AI	BC1602AI	BC2002AI	BC2002BI	BC4002AI
Characters x Lines	16x1	16x2	20x2	20x2	40x2
Module Size(mm)	86.0 x 36.0	80.0 x 36.0	116.0 x 37.0	180.0 x 40.0	182.0 x 33.5
View Area(mm)	66.0 x 16.0	66.0 x 16.0	85.0 x 18.6	149.0 x 23.0	154.4 x 16.5
Dot Size(mm)	0.55 x 0.75	0.55 x 0.65	0.60 x 0.65	1.12 x 1.12	0.60 x 0.65
Character Size(mm)	3.07 x 6.56	2.95 x 5.55	3.2 x 5.55	6.0 x 9.66	3.2 x 5.55
Controller	ST7066	ST7066	ST7066	ST7066	ST7066
Backlight	LED	LED	LED	LED	LED
Interface	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232
USB Connector	Optional	Optional	N/A	Optional	N/A
Duty Cycle	1/16	1/16	1/16	1/16	1/16
Power (Volt)	5	5	5	5	5



BC1602EI

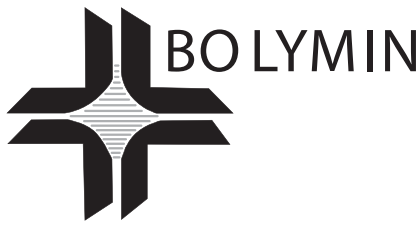
BC1604AI

BC2004AI

BC2402AI

BC4004AI

Model	BC1602EI	BC1604AI	BC2004AI	BC2402AI	BC4004AI
Characters x Lines	16x2	16 x 4	20x4	24x2	40x4
Module Size(mm)	123.0 x 44.0	87.0 x 60.0	98.0 x 60.0	118.0 x 36.0	190.0 x 54.0
View Area(mm)	99.0 x 24.0	62.0 x 26.0	77.0 x 25.2	94.5 x16.0	147.0 x29.5
Dot Size(mm)	0.92 x 1.1	0.55 x 0.55	0.55 x 0.55	0.6 x 0.65	0.5 x 0.55
Character Size(mm)	4.8 x 9.66	2.95 x 4.75	2.95 x 4.75	3.2 x 5.55	2.78 x 4.89
Controller	ST7066	ST7066	ST7066	ST7066	ST7066
Backlight	LED	LED	LED	LED	LED
Interface	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232	I2C/SPI/RS232
USB Connector	Optional	Optional	Optional	Optional	Optional
Duty Cycle	1/16	1/16	1/16	1/16	1/16
Power (Volt)	5	5	5	5	5



mLCM

BC1601AI



Feature

1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

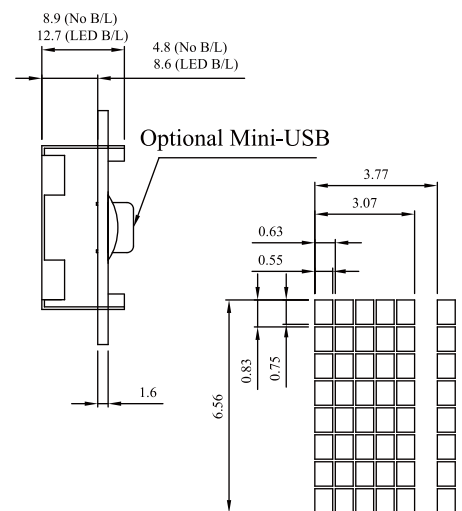
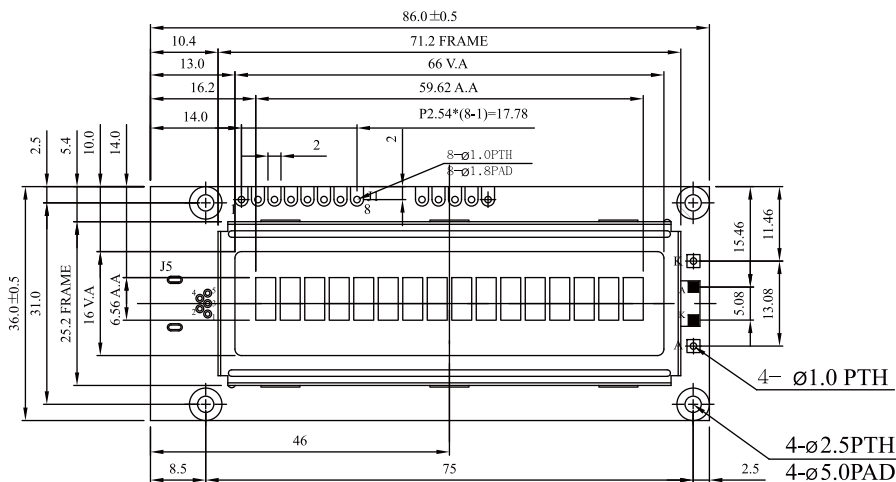
Mechanical Data

Item	Standard Value	Unit
Module Dimension	86.0 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	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Dimension



DOT SIZE
SCALE 5/1

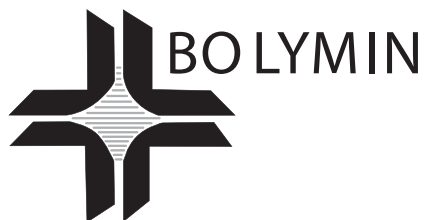


Special code:

20k=RS232 interface, u=USB interface, 20i=SPI interface

Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	120(Max.)	mA



mLCM

BC1602AI



Feature

1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

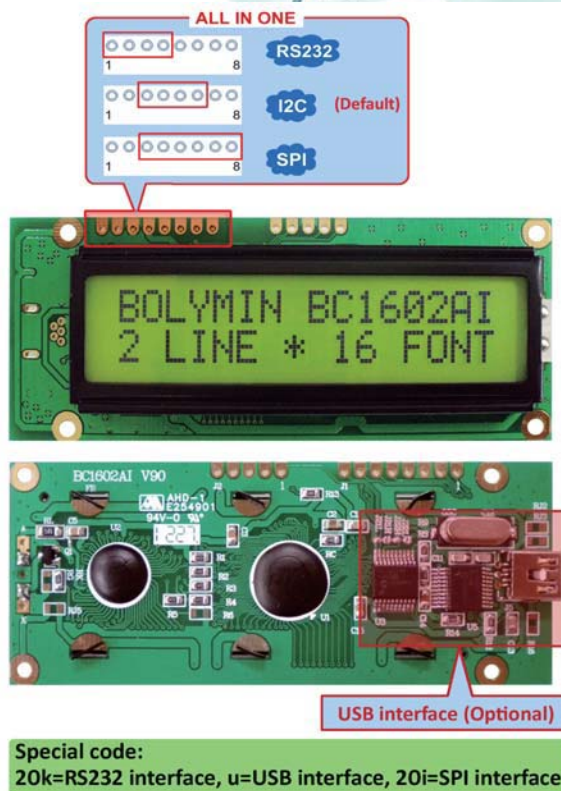
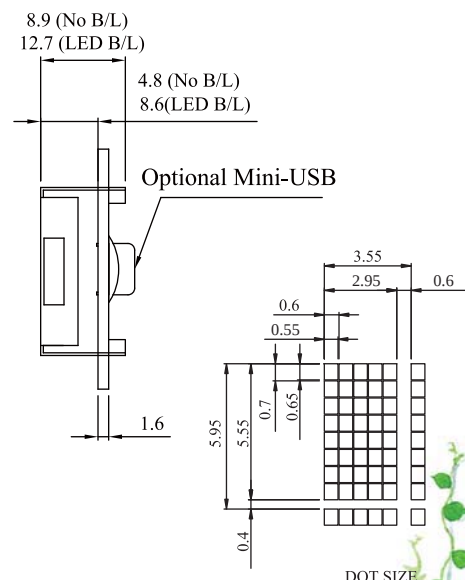
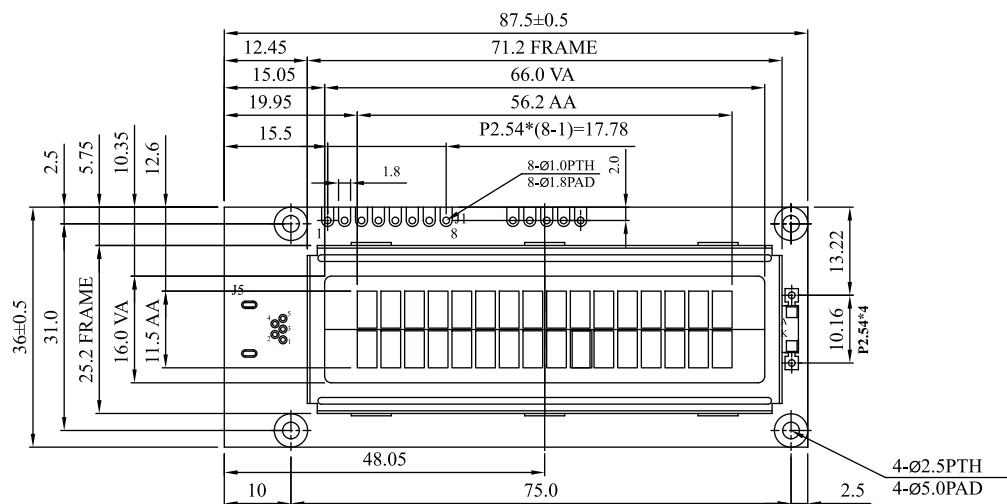
Mechanical Data

Item	Standard Value	Unit
Module Dimension	87.5 x 36.0	mm
Viewing Area	66.0 x 16.0	mm
Dot Size	0.55 x 0.65	mm
Character Size	2.95 x 5.95	mm

Pin Assignment

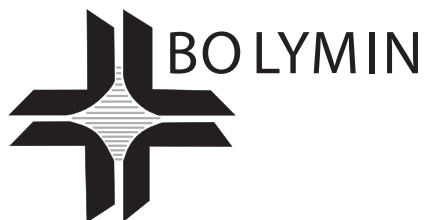
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Dimension



Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	130(Max.)	mA



mLCM

BC1602EI



Feature

1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

Mechanical Data

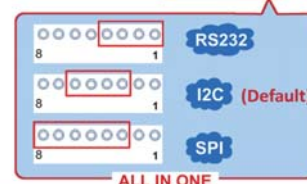
Item	Standard Value	Unit
Module Dimension	123.0 x 44.0	mm
Viewing Area	99.0 x 24.0	mm
Dot Size	0.92 x 1.1	mm
Character Size	4.8 x 9.66	mm

Pin Assignment

Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select



USB interface (Optional)



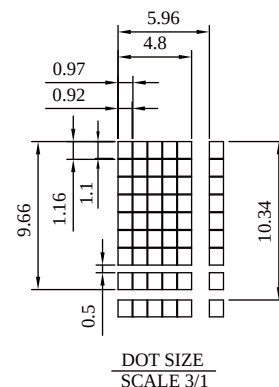
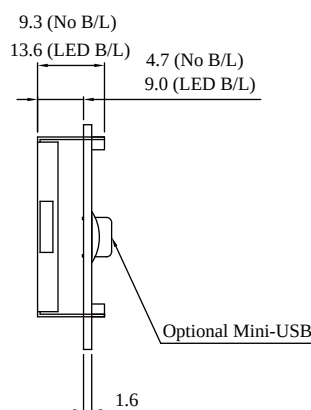
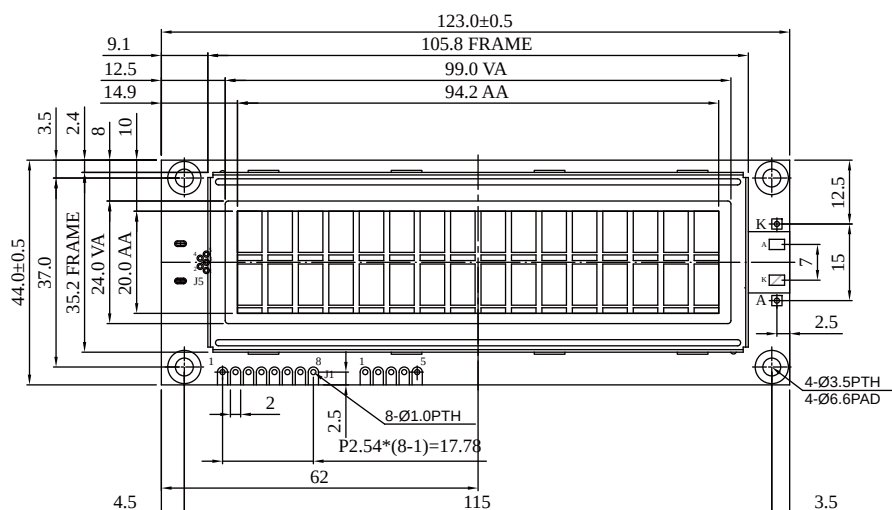
Special code:

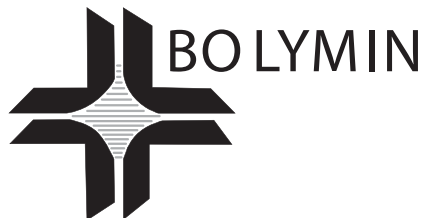
20k=RS232 interface, u=USB interface, 20i=SPI interface

Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	260(Max.)	mA

Dimension





mLCM

BC1604AI



Feature

1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

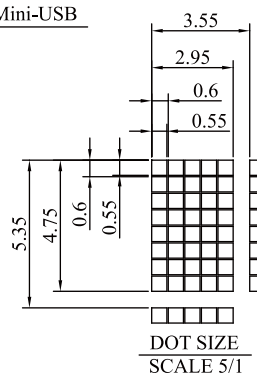
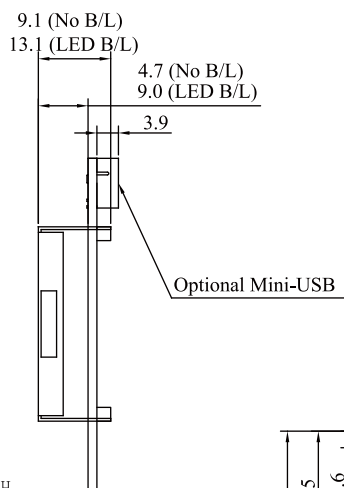
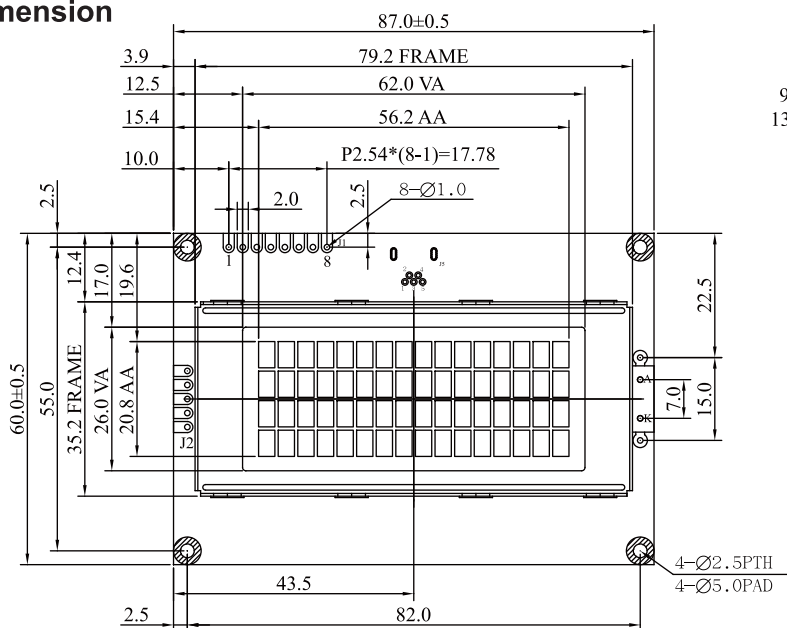
Mechanical Data

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

Pin Assignment

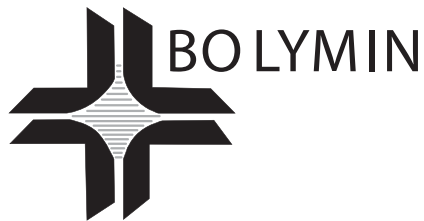
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Dimension



Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	205(Max.)	mA



mLCM

BC2002AI



Feature

1. Multi-interface : RS232/SPI/I2C
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

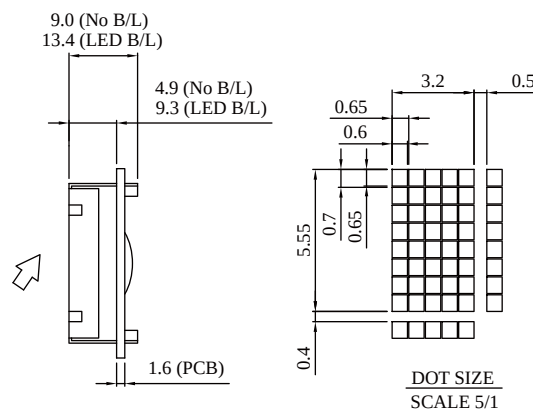
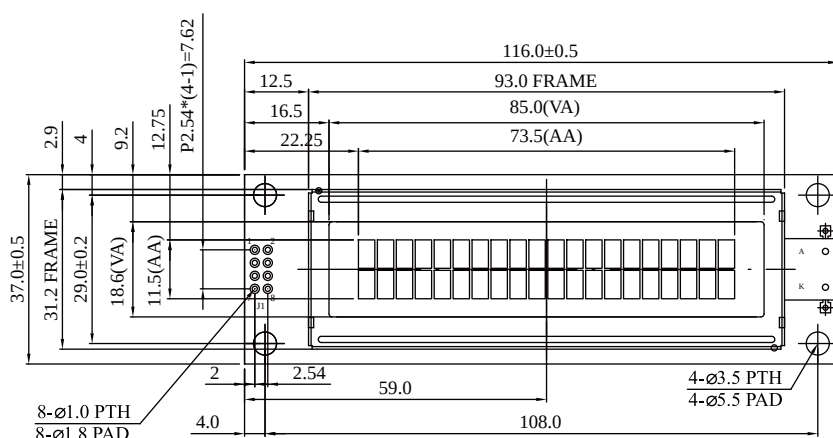
Mechanical Data

Item	Standard Value	Unit
Module Dimension	116.0 x 37.0	mm
Viewing Area	85.0 x 18.6	mm
Dot Size	0.60 x 0.65	mm
Character Size	3.2 x 5.55	mm

Pin Assignment

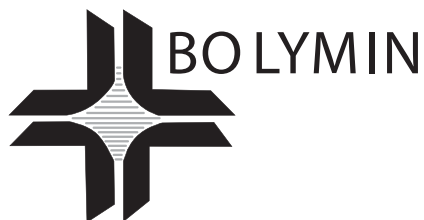
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Dimension



Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	250(Max.)	mA



mLCM

BC2002BI



Feature

1. Multi-interface : RS232/SPI/I2C(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

Mechanical Data

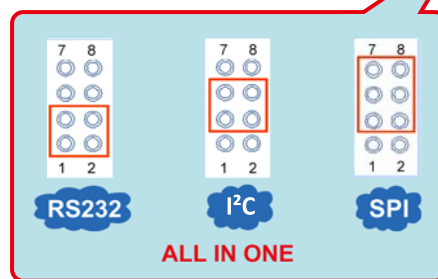
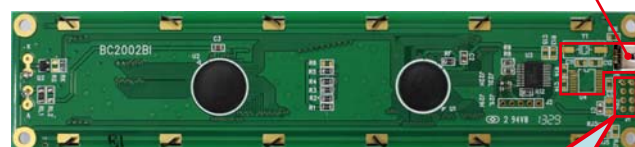
Item	Standard Value	Unit
Module Dimension	180.0 x 40.0	mm
Viewing Area	149.0 x 23.0	mm
Dot Size	1.12 x 1.12	mm
Character Size	6.0 x 9.66	mm

Pin Assignment

Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select



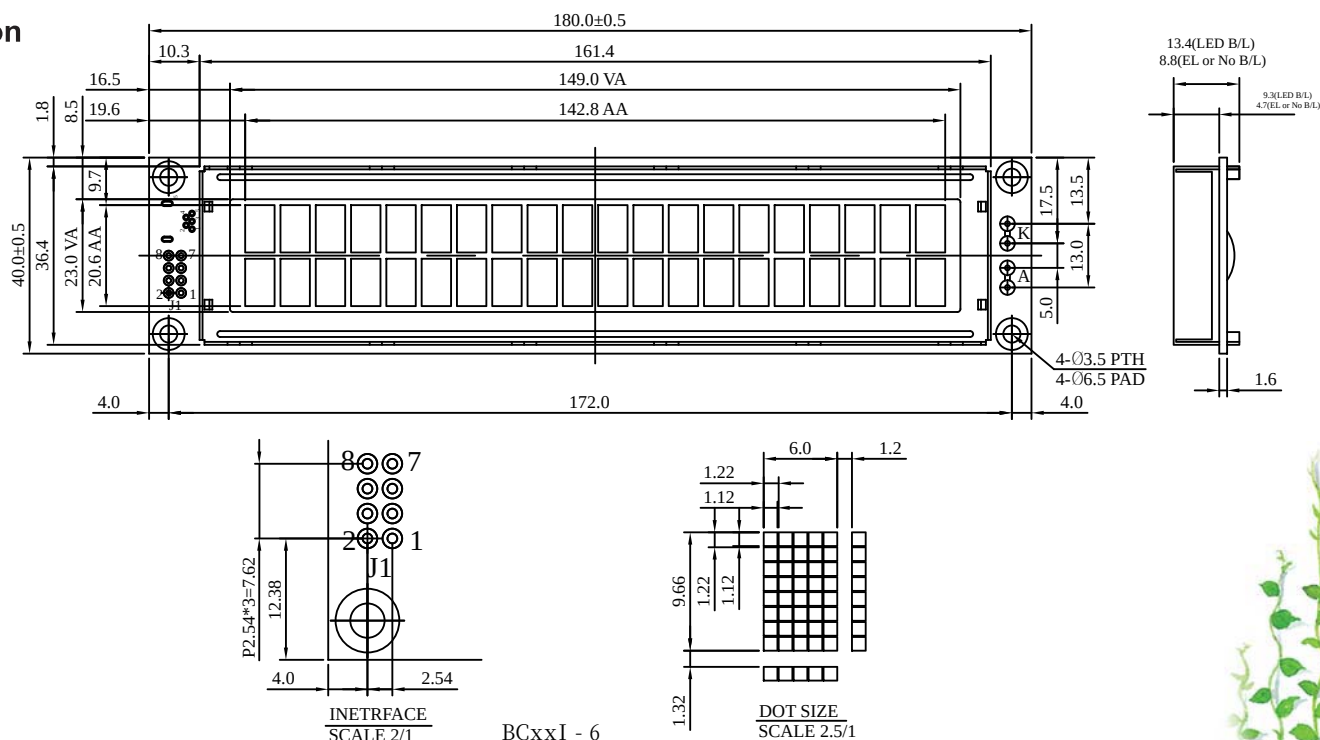
USB Interface(optional)

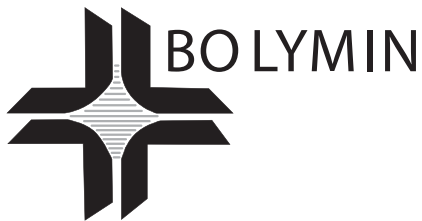


Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	380(Max.) ,Yellow green 50(Max.),white	mA

Dimension





mLCM

BC2004AI



Feature

1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

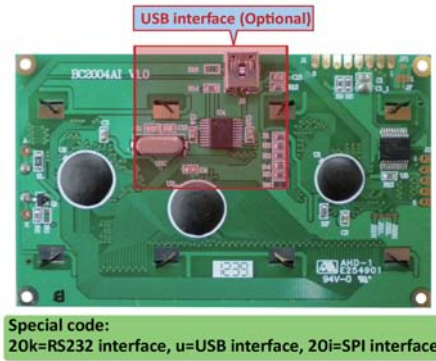
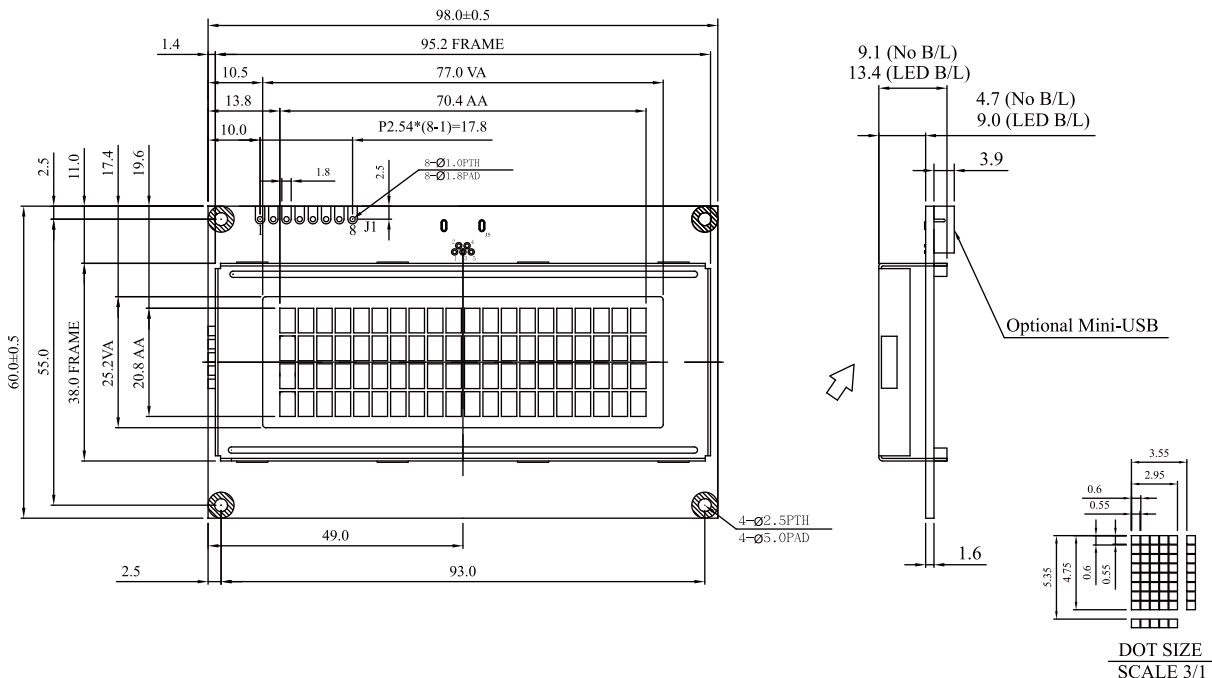
Mechanical Data

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

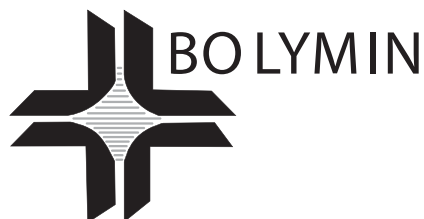
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Dimension



Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	285(Max.)	mA



mLCM

BC2402AI



Feature

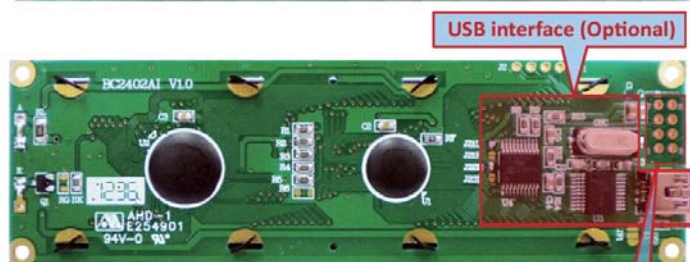
1. Multi-interface : I2C/SPI/RS232(USB optional)
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

Mechanical Data

Item	Standard Value	Unit
Module Dimension	118.0 x 36.0	mm
Viewing Area	94.5 x 16.0	mm
Dot Size	0.60 x 0.65	mm
Character Size	3.7 x 5.95	mm

Pin Assignment

Pin	Symbol	Function
1	TX	RS-232 level output port
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select



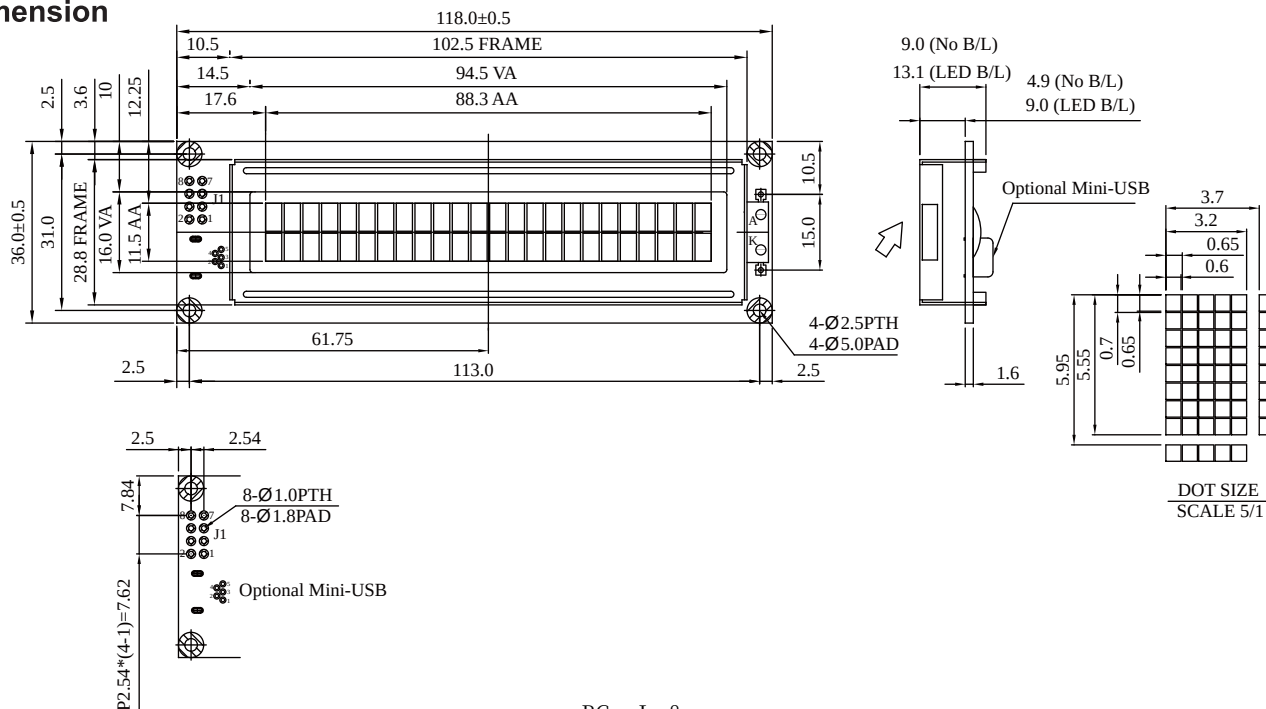
Special code:

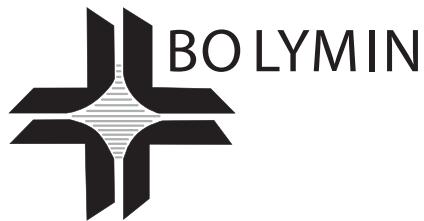
20k=RS232 interface, u=USB interface, 20i=SPI interface

Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	210(Max.)	mA

Dimension





mLCM

BC4002AI



Feature

1. Multi-interface : RS232/SPI/I2C
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program



Mechanical Data

Item	Standard Value	Unit
Module Dimension	182.0 x 33.5	mm
Viewing Area	154.4 x 16.5	mm
Dot Size	0.60 x 0.65	mm
Character Size	3.2 x 5.55	mm



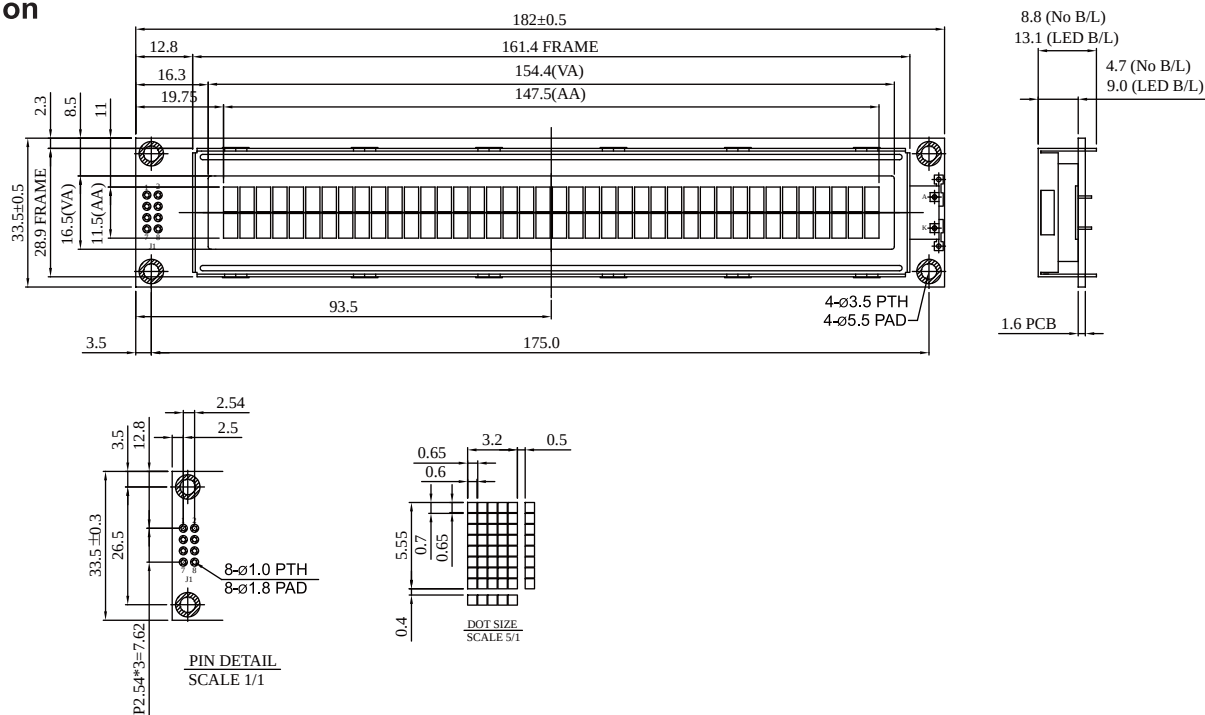
Pin Assignment

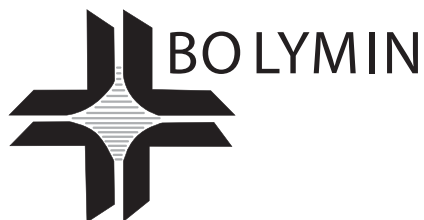
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select

Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	310(Max.)	mA

Dimension





mLCM

BC4004AI



Feature

1. Multi-interface : RS232/SPI/I2C
2. COB with metal frame
3. 5x7 dots with cursor
4. Built-in controller ST7066 or equivalent
5. 1/16 duty cycle
6. Backlight : LED EDGE/ARRAY
7. 5V single power supply
8. Contrast/Backlight adjustment by program

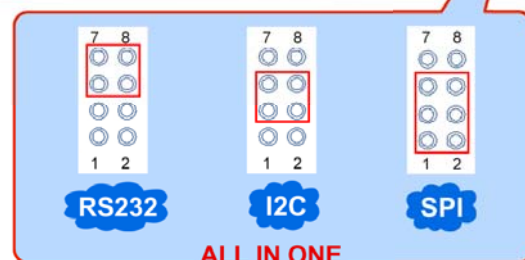


Mechanical Data

Item	Standard Value	Unit
Module Dimension	190.0 x 54.0	mm
Viewing Area	147.0 x 29.5	mm
Dot Size	0.50 x 0.55	mm
Character Size	2.78 x 4.89	mm

Pin Assignment

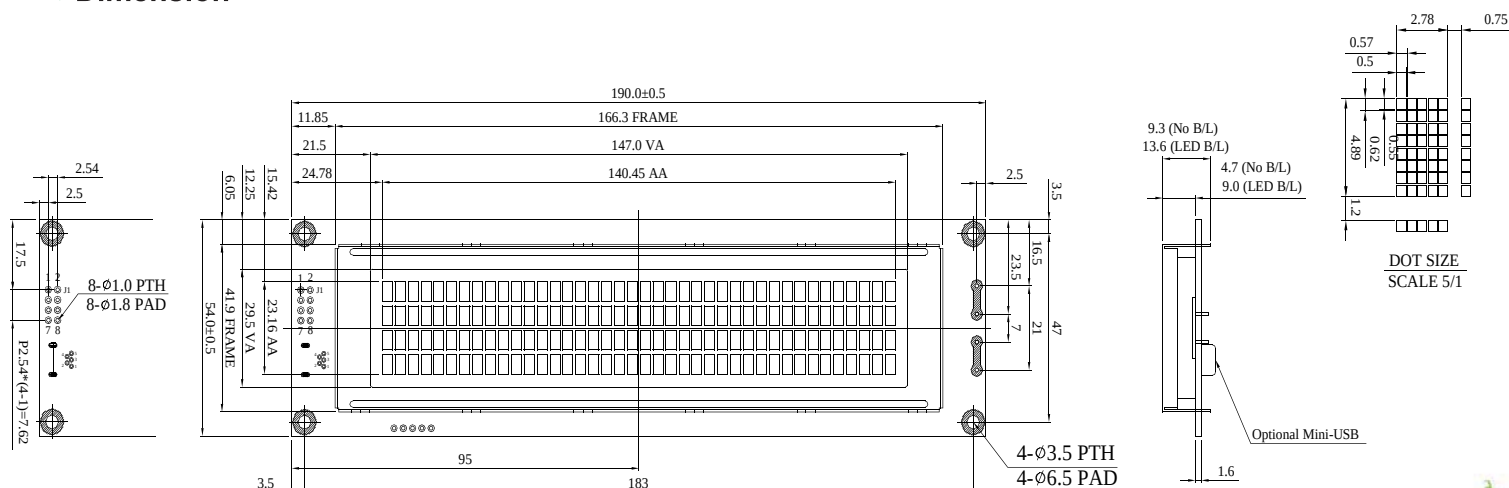
Pin	Symbol	Function
1	TX	RS-232 level output port.
2	RX	RS-232 level input port
3	VSS	Ground.
4	VDD	System power supply input.
5	SDA	I2C: Data Input/output for the I ² C SPI: Serial data Input
6	SCL	I2C: Clock Input for the I ² C SPI: Serial clock Input
7	SDO	SPI: Serial data Output
8	/CS	SPI: Chip select



Electronic Characteristics

Item	Symbol	Condition	Value	Unit
Input Voltage	Vdd	Vdd = +5V	5.0(Typ.)	V
Supply Current with Backlight	Idd	Vdd = +5V	90(Max.)	mA

Dimension



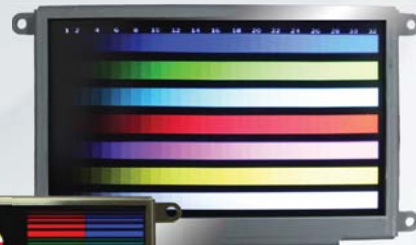
mLCM-GUI TFT Type

- (*BE7xx Series*)

BE757



BE743

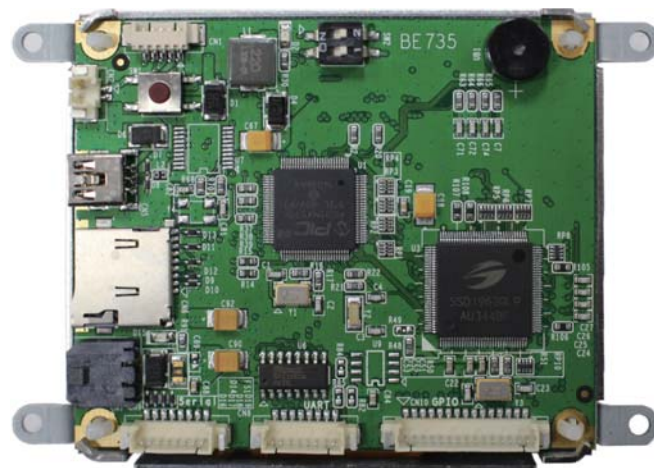
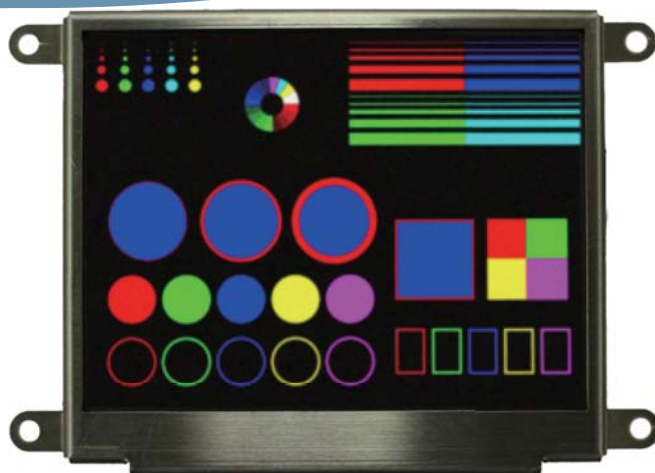


BE735



mLCM-GUI TFT

BE735



(Rear Side View)



Hardware Specifications

Display

- 3.5" TFT panel 320X240 QVGA
- Supports 262K color TFT at 18bpp mode
- With LED Backlight

External Storage

- Supports micro SD

Audio

- Built-in Buzzer

Interface

- RS232/SPI/I²C (select one from three)

Marco Command

- Supports marco command
Text, Graphic, Image, Touch, Peripheral, Bar graph

Touch Panel Interface

- Supports four-wired resistive touch panel interface

DC Requirement

- DC 5V

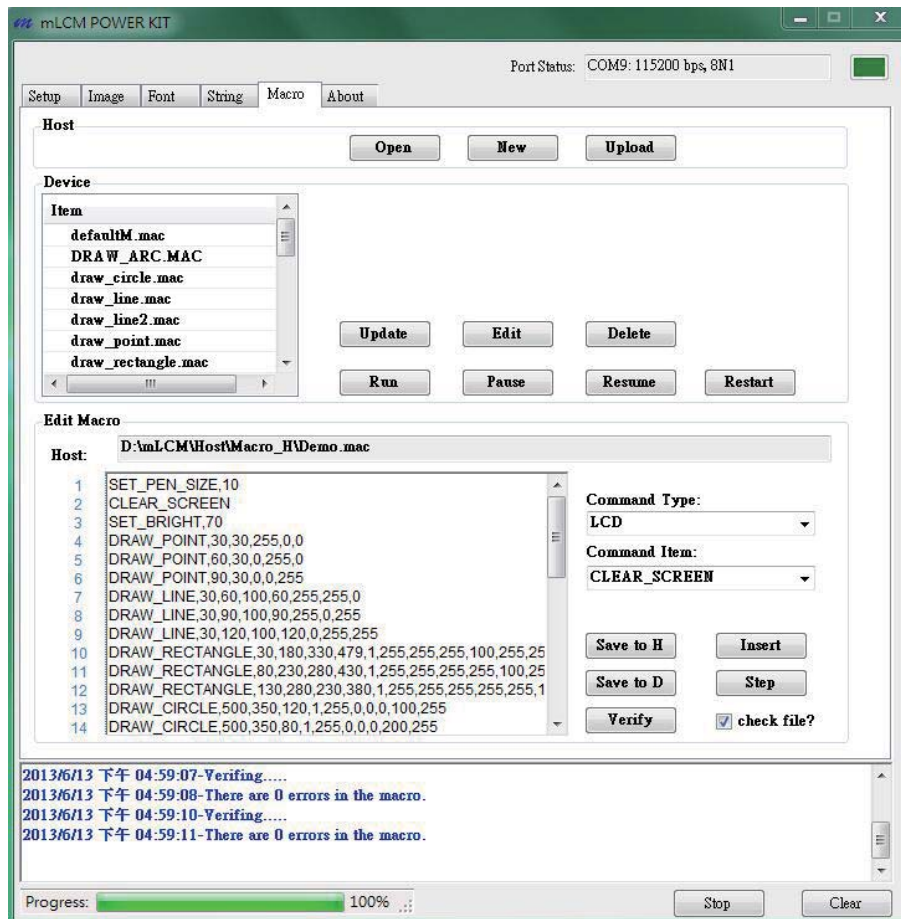
Dimension

- WxHxD: 93x67x15mm

Controls Features

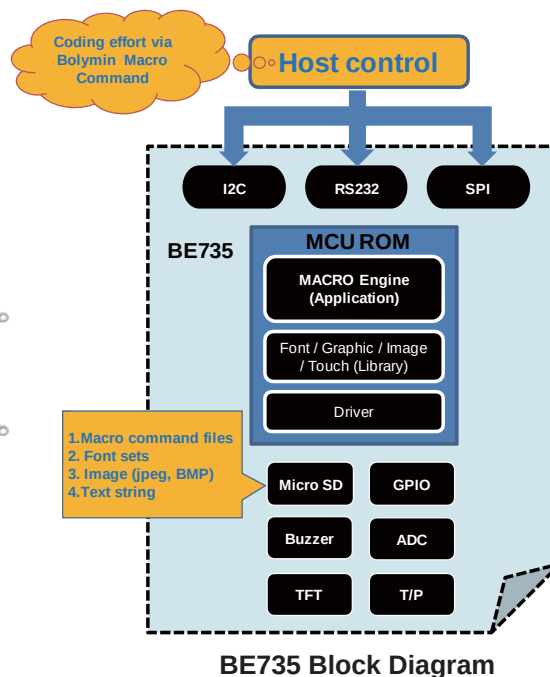
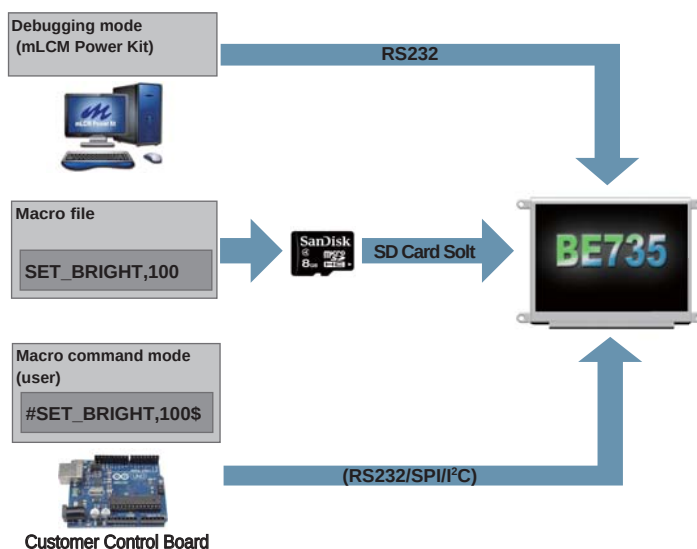
- Controls host & BE735 to achieve their communication & control based upon Bolymin well-defined macro command.
- User controls friendly macro command helps to simplify and speed up customer's GUI and control design
- Bolymin macro command integrates:
 - Text: Shows text string in different position, font style & color
 - Graphic: Draws line, rectangle, circle & arc
 - Image: Shows jpeg & bmp picture
 - Touch: Generates touch button and touch action reply
 - Peripheral: Gets ADC value and manipulates GPIO
 - Bar graph: Generates progress-bar, scroll bar
- On BE735 device: Provides solid macro command engine
- On Windows host: mLCM Power Kit generates proper macro command files, font files, text string files and images.

Development Tools : mLCM Power Kit



Control feature

BE735 can be controlled by the user in 3 different ways:





(Rear Side View)



Hardware Specifications

Display

- 4.3" TFT panel 480 X272 WQVGA
- Supports 262K color TFT at 18bpp mode
- With LED Backlight

External Storage

- Supports micro SD

Audio

- Built-in Buzzer

Interface

- RS232/SPI (select one from two)

Marco Command

- Supports marco command
Text, Graphic, Image, Touch, Peripheral, Bar graph

Touch Panel Interface

- Supports four-wired resistive touch panel interface

DC Requirement

- DC 5V

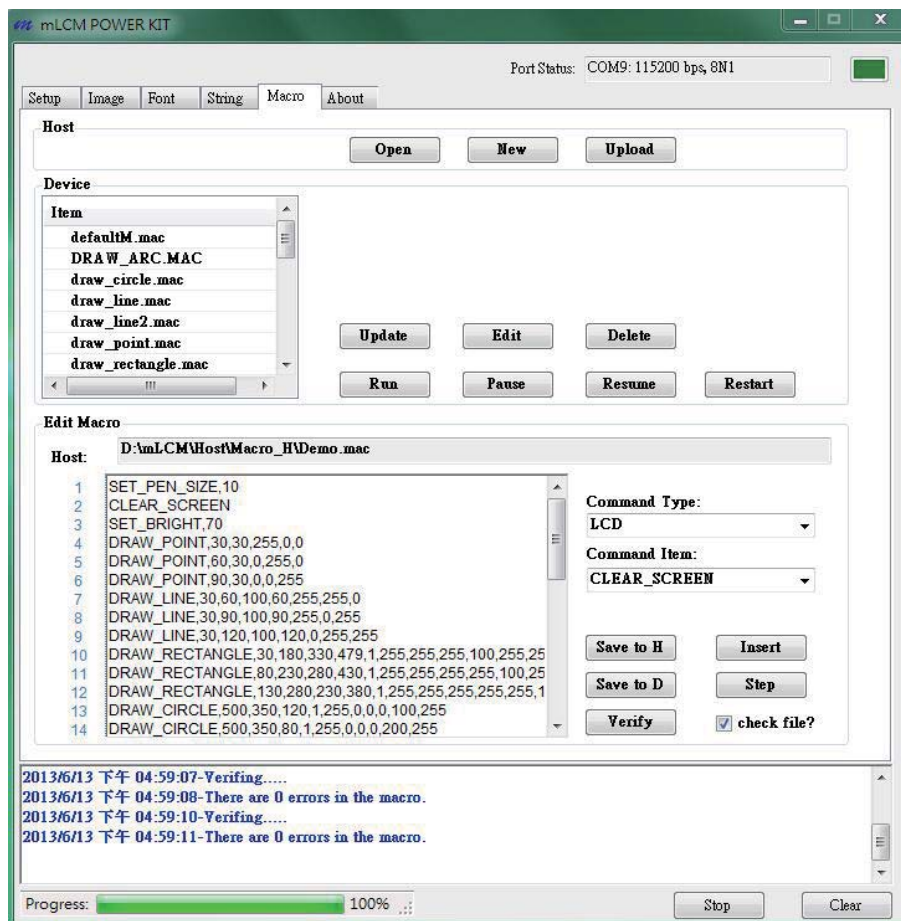
Dimension

- WxHxD: 125.8x71.5x14.25 mm

Controls Features

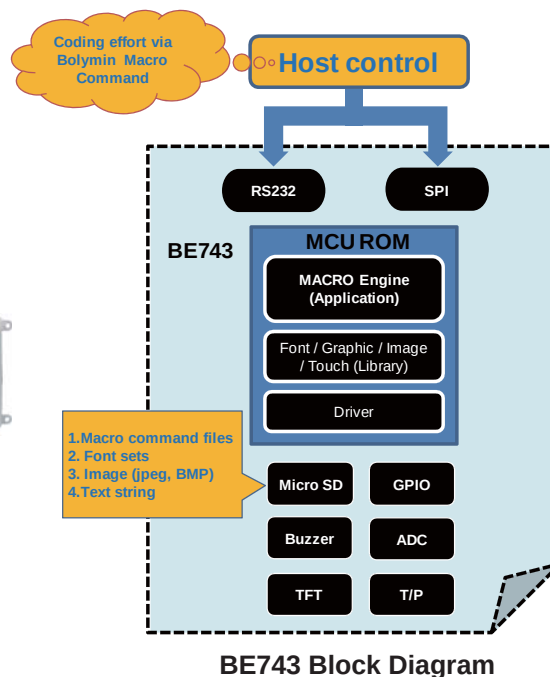
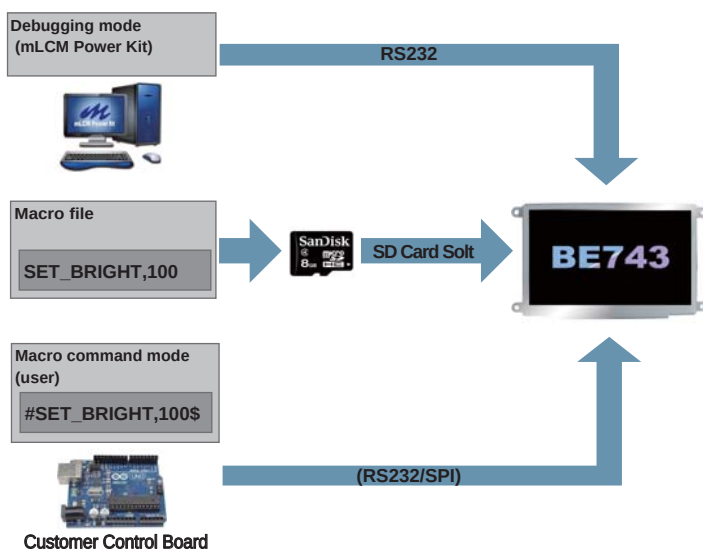
- Controls host & BE743 to achieve their communication & control based upon Bolymin well-defined macro command.
- User controls friendly macro command helps to simplify and speed up customer's GUI and control design
- Bolymin macro command integrates:
 - Text: Shows text string in different position, font style & color
 - Graphic: Draws line, rectangle, circle & arc
 - Image: Shows jpeg & bmp picture
 - Touch: Generates touch button and touch action reply
 - Peripheral: Gets ADC value and manipulates GPIO
 - Bar graph: Generates progress-bar, scroll bar
- On BE743 device: Provides solid macro command engine
- On Windows host: mLCM Power Kit generates proper macro command files, font files, text string files and images.

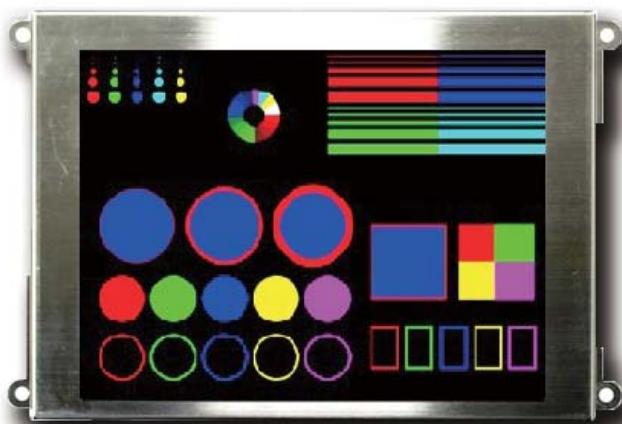
Development Tools : mLCM Power Kit



Control feature

BE743 can be controlled by the user in 3 different ways:





(Rear Side View)



Hardware Specifications

Display

- 5.7" TFT panel 640X480 VGA
- 5.7" TFT panel 320X240 QVGA (optional)
Supports 262K color TFT at 18bpp mode
- With LED Backlight

External Storage

- Supports micro SD

Audio

- Built-in Buzzer

Interface

- RS232/SPI/I²C (select one from three)

Marco Command

- Supports marco command
Text, Graphic, Image, Touch, Peripheral, Bar graph

Touch Panel Interface

- Supports four-wired resistive touch panel interface

DC Requirement

- DC 5V~24V

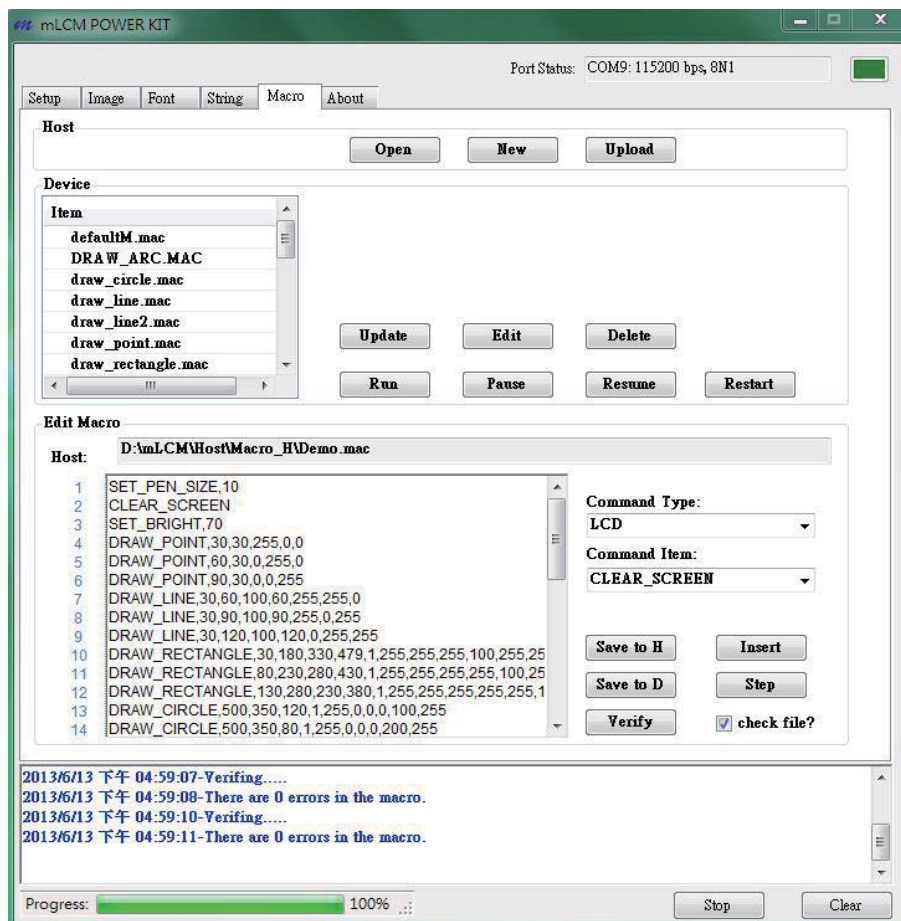
Dimension

- WxHxD: 164x106x29mm

Controls Features

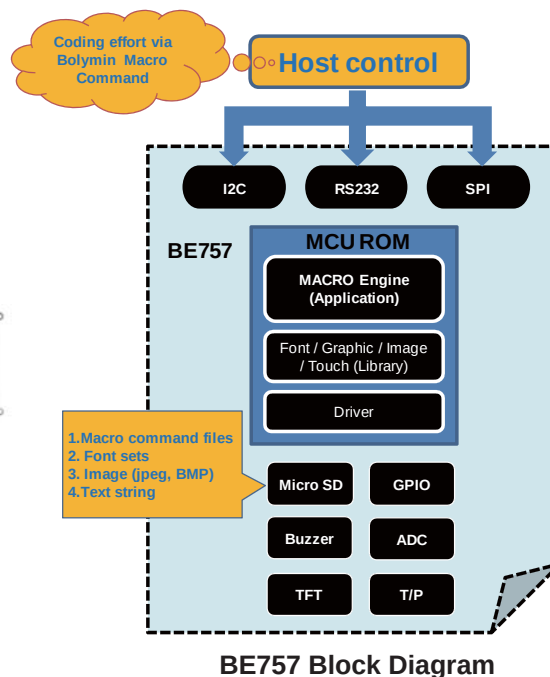
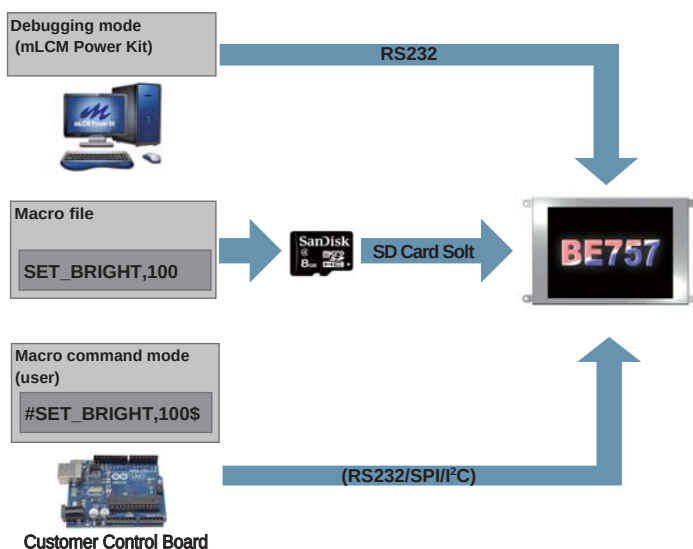
- Controls host & BE757 to achieve their communication & control based upon Bolymin well-defined macro command.
- User controls friendly macro command helps to simplify and speed up customer's GUI and control design
- Bolymin macro command integrates:
 - Text: Shows text string in different position, font style & color
 - Graphic: Draws line, rectangle, circle & arc
 - Image: Shows jpeg & bmp picture
 - Touch: Generates touch button and touch action reply
 - Peripheral: Gets ADC value and manipulates GPIO
 - Bar graph: Generates progress-bar, scroll bar
- On BE757 device: Provides solid macro command engine
- On Windows host: Power Kit generates proper macro command files, font files, text string files and images.

Development Tools : mLCM Power Kit



Control feature

BE757 can be controlled by the user in 3 different ways:



BL1602AI
BL1602EI
BL2002AI
BL2004AI



mOLED

Multi-Interface Organic Light-Emitting Diode
- (BLxxI Series)



BL1602AI



BL2002AI



BL1602EI



BL2004AI

Character OLED with RS232 Interface

Features

- Interface : RS232
- COG+SMT
- 5x7 dots with cursor
- Built-in controller US2066
- 1/16 duty cycle for 16*2 & 20*2
- 1/32 duty cycle for 20*4
- 3.3V & 5.0V power supply
- Contrast adjustment by software

Specifications

BL1602EI



BL1602AI



BL2002AI



BL2004AI



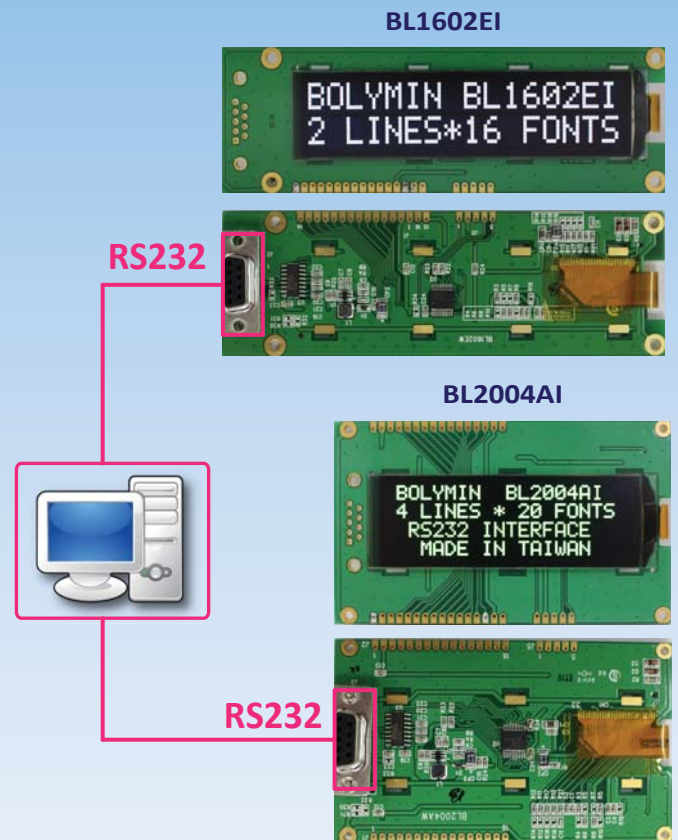
Model	BL1602EI	BL1602AI	BL2002AI	BL2004AI
Characters x Lines	16x2	16x2	20x2	20x4
Module Size(mm)	134.6 x 44.0	95.0 x 36.0	130.0 x 37.0	100.0 x 60.0
View Area(mm)	93.14 x 20.98	58.22 x 13.52	75.52 x 13.52	72.42 x 22.82
Dot Size(mm)	0.9 x 1.06	0.57 x 0.67	0.62 x 0.67	0.57 x 0.57
Character Size(mm)	4.74 x 8.9	2.97 x 5.57	3.22 x 5.57	2.97 x 4.77
Controller	US2066	US2066	US2066	US2066
Interface	RS232	RS232	RS232	RS232
Duty	1/16	1/16	1/16	1/32
Power (Volt)	5V & 3.3V	5V & 3.3V	5V & 3.3V	5V & 3.3V

Pin Assignment

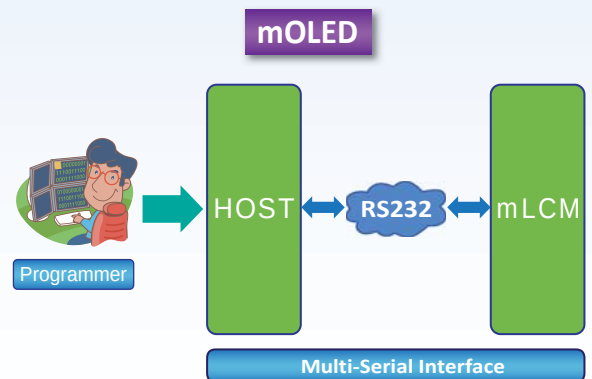
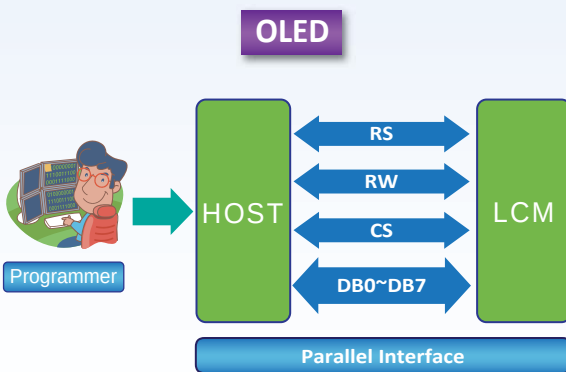
D-SUB connector pin define:

Pin	Symbol	Description
1	NC	
2	Dout	RS-232 level output port
3	Din	RS-232 level input port
4	NC	
5	GND	Ground
6	NC	
7	NC	
8	NC	
9	NC	

J1, J2 : PIN1 : Vss, Pin2 : Vdd



OLED VS. mOLED



Features	OLED	mOLED
Host Communication Interface	parallel	serial
Control Pin Numbers	4 or 8 data pins + 3 control pins	RS232 : 2 I/O pins
Contrast Adjustment	by variable resistor	software controlled
Initial Code	sent from host device	built-in

Character OLED with RS232 Interface

Features

- Interface : RS232
- COG+SMT
- 5x7 dots with cursor
- Built-in controller US2066
- 1/16 duty cycle for 16*2 & 20*2
- 1/32 duty cycle for 20*4
- 3.3V & 5.0V power supply
- Contrast adjustment by software

Specifications

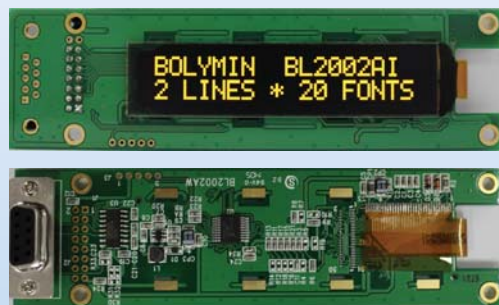
BL1602EI



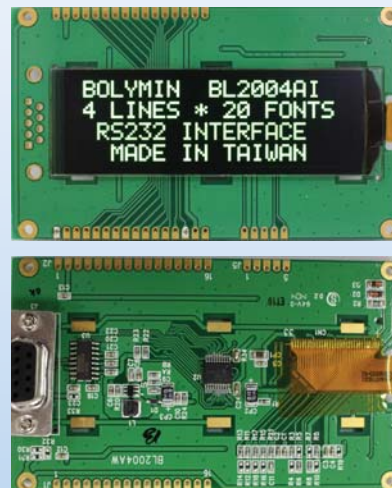
BL1602AI



BL2002AI



BL2004AI



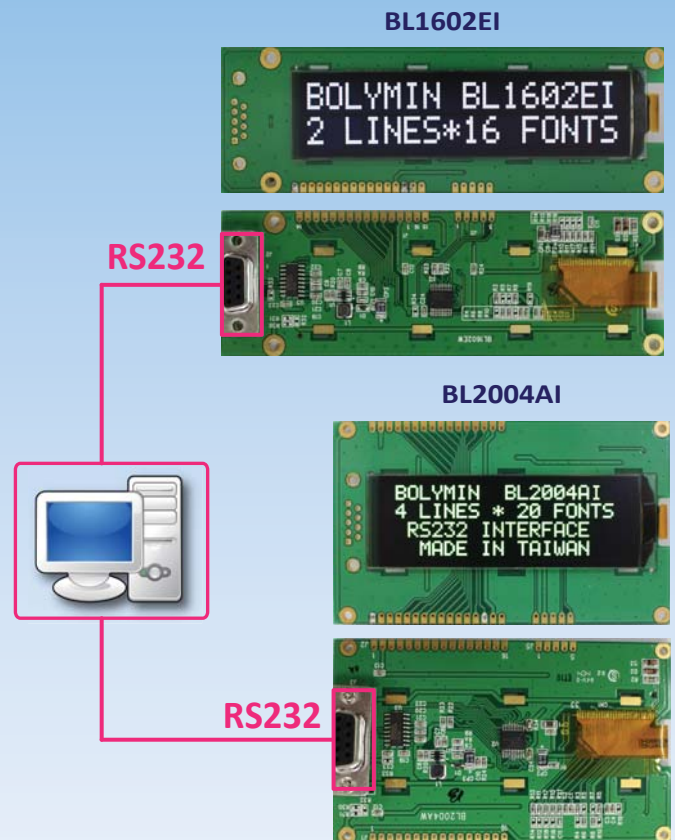
Model	BL1602EI	BL1602AI	BL2002AI	BL2004AI
Characters x Lines	16x2	16x2	20x2	20x4
Module Size(mm)	134.6 x 44.0	95.0 x 36.0	130.0 x 37.0	100.0 x 60.0
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Character Size(mm)	4.74 x 8.9	2.97 x 5.57	3.22 x 5.57	2.97 x 4.77
Controller	US2066	US2066	US2066	US2066
Interface	RS232	RS232	RS232	RS232
Duty	1/16	1/16	1/16	1/32
Power (Volt)	5V & 3.3V	5V & 3.3V	5V & 3.3V	5V & 3.3V

Pin Assignment

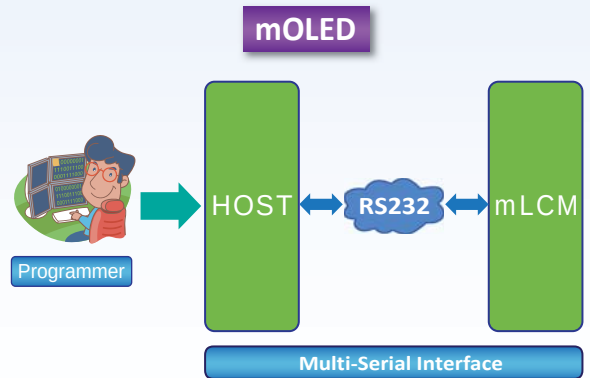
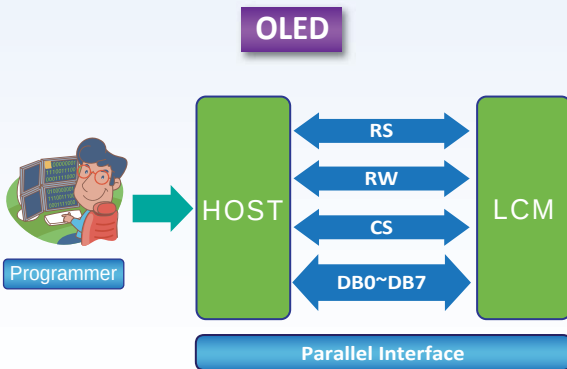
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Pin	Symbol	Description
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3	Din	RS-232 level input port
4	NC	
5	GND	Ground
6	NC	
7	NC	
8	NC	
9	NC	

J1, J2 : PIN1 : Vss, Pin2 : Vdd



OLED VS. mOLED



Features	OLED	mOLED
Host Communication Interface	parallel	serial
Control Pin Numbers	4 or 8 data pins + 3 control pins	RS232 : 2 I/O pins
Contrast Adjustment	by variable resistor	software controlled
Initial Code	sent from host device	built-in

Character OLED with RS232 Interface

Features

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- COG+SMT
- 5x7 dots with cursor
- Built-in controller US2066
- 1/16 duty cycle for 16*2 & 20*2
- 1/32 duty cycle for 20*4
- 3.3V & 5.0V power supply
- Contrast adjustment by software

Specifications

BL1602EI



BL1602AI



BL2002AI



BL2004AI



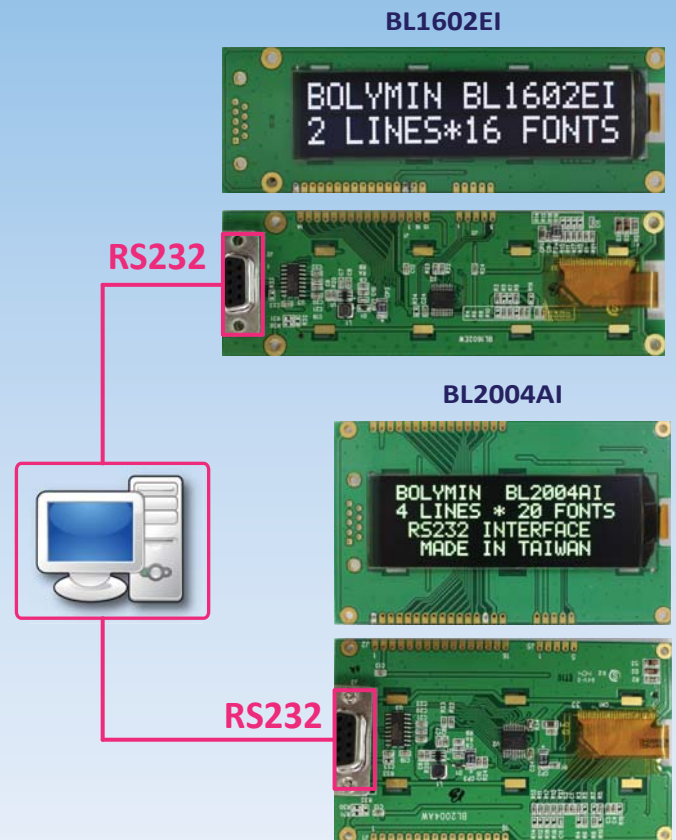
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Controller	US2066	US2066	US2066	US2066
Interface	RS232	RS232	RS232	RS232
Duty	1/16	1/16	1/16	1/32
Power (Volt)	5V & 3.3V	5V & 3.3V	5V & 3.3V	5V & 3.3V

Pin Assignment

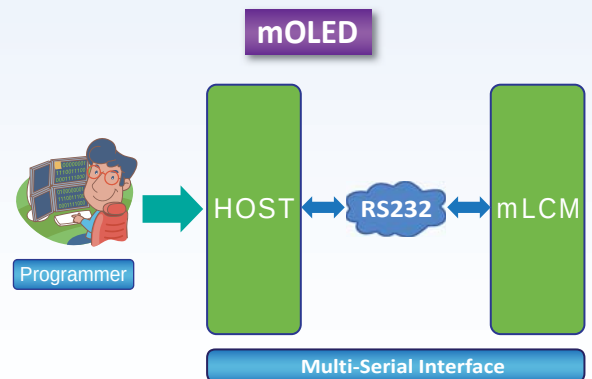
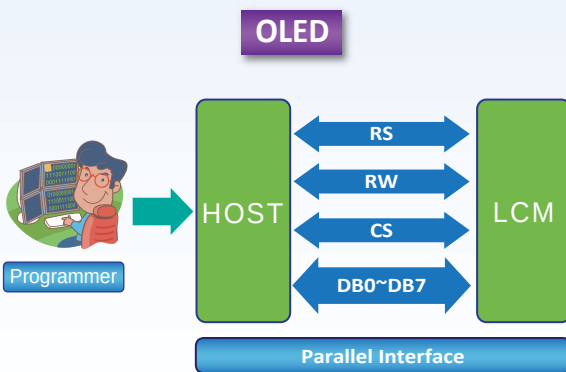
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7	NC	
8	NC	
9	NC	

J1, J2 : PIN1 : Vss, Pin2 : Vdd



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Character OLED with RS232 Interface

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Specifications

BL1602EI



BL1602AI



BL2002AI



BL2004AI



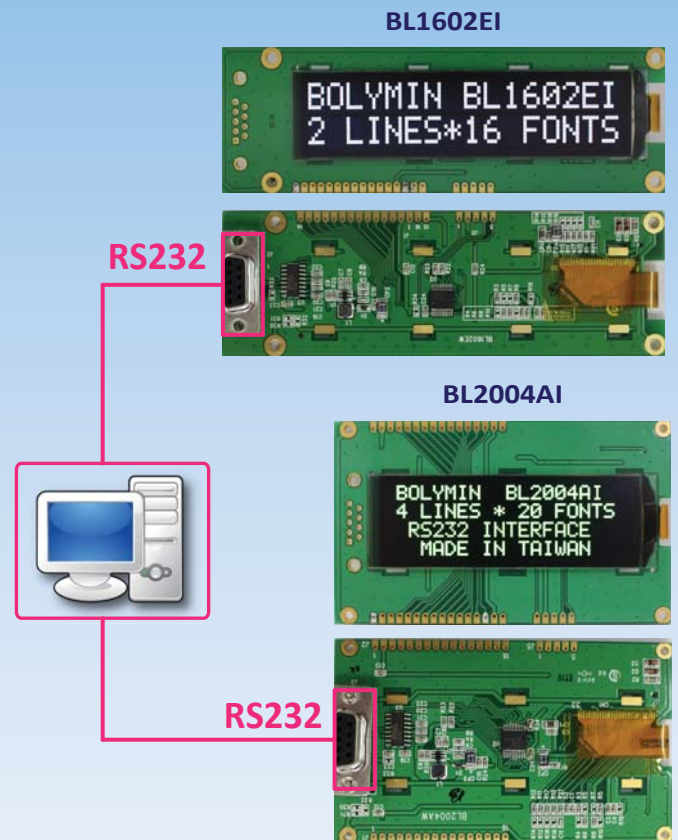
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Power (Volt)	5V & 3.3V	5V & 3.3V	5V & 3.3V	5V & 3.3V

Pin Assignment

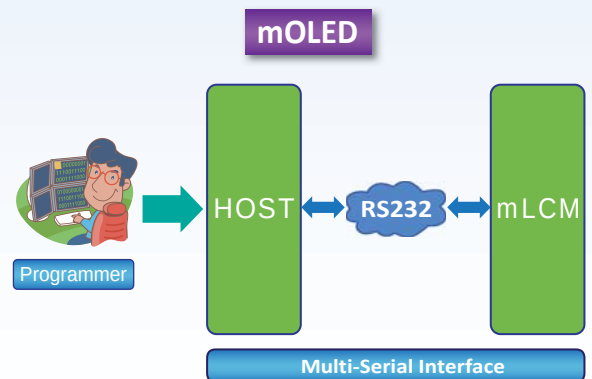
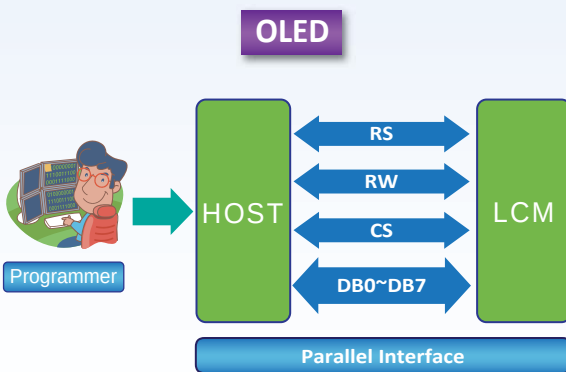
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OLED VS. mOLED



Features	OLED	mOLED
Host Communication Interface	parallel	serial
Control Pin Numbers	4 or 8 data pins + 3 control pins	RS232 : 2 I/O pins
Contrast Adjustment	by variable resistor	software controlled
Initial Code	sent from host device	built-in