

MC122032B6W-BNMLW-V2	122 x 32		LCD Module
<b>Specification</b>			
Version: 1		Date: 31/10/2016	
<b>Revision</b>			

<b>Display Features</b>	
Operating Temp. Range	-20°C ~ +70°C
Viewing Direction	6 O'Clock
STN	Blue Transmissive
Backlight	LED White
Controller	SBN1661G_M02
Characters	122 x 32
Voltage	5V
Module Size	84.00 x 44.00 x 15.00 mm
Display Construction	Chip on Board



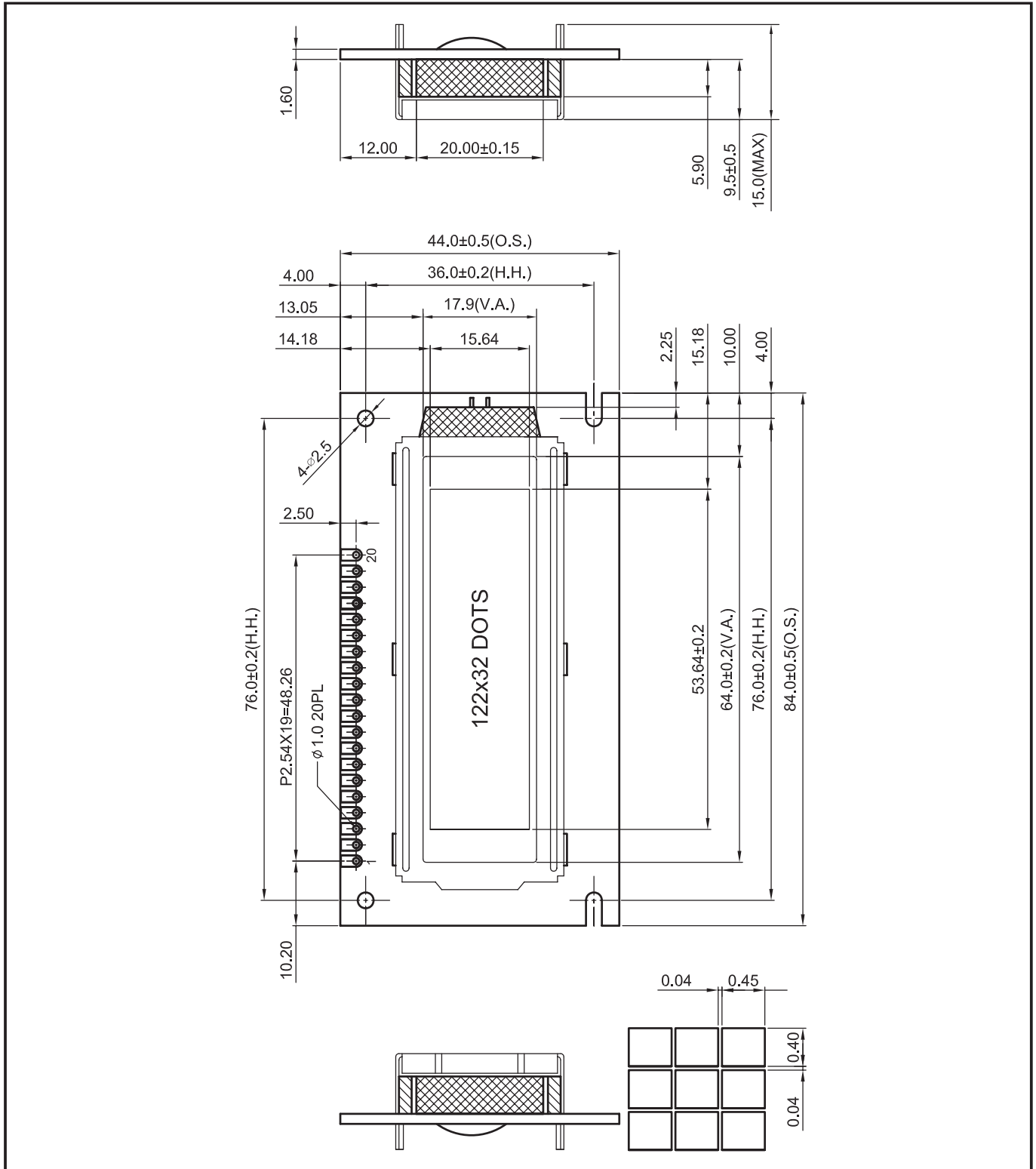
Box Quantity	Weight / Display
45 pcs	28.88 grams

\* - For full design functionality, please use this specification in conjunction with the SBN1661G\_M02 specification.(Provided Separately)

<b>Optional Variants</b>			<b>Display Accessories</b>	
Fonts	Physical Aspects	Voltage	Part Number	Description
N/A	N/A	N/A	MCCMDB-16SIL	LCD interconnect board, can be driven from either a PC or a single board computer with a USB output.

## Mechanical Specifications

Module Size	84.00 x 44.00 x 15.00 ( With Backlight)				W x H x D mm
Viewing Area	64.00 x 17.90	W x H mm	Hole-to-Hole	76.00 x 36.00	W x H mm
Dot Size	0.40 x 0.45	W x H mm	Dot Pitch	0.04 x 0.04	W x H mm

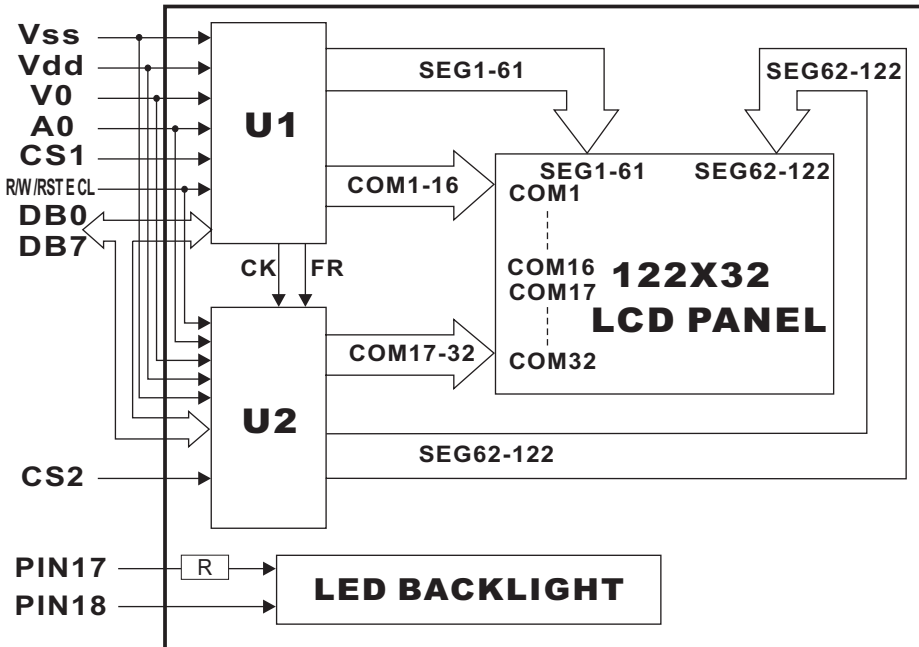


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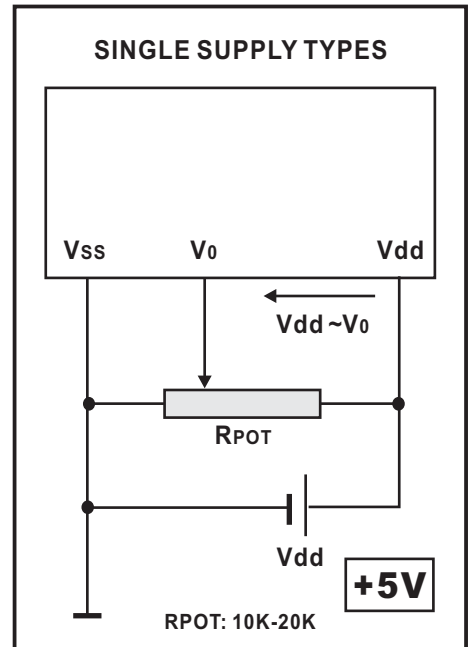
# Pin Layout

Dj <b>b</b>	Gna Vc`	8 YgW]dHjcb	FYa Uf_g
1	Vss	GND	
2	Vdd	Power Supply for LCM	5.0V
3	V0	Contrast Adjust	
4	A0	H/L H: Data; L: Instruction Code	
5	CS1	Chip 1 Enable Signal	
6	CS2	Chip 2 Enable Signal	
7	CL	Clock Input (2 KHz)	
8	E	Enable Signal	
9	R/W	Data Read / Write	
10	DB0	Data bus Line	
11	DB1	Data bus Line	
12	DB2	Data bus Line	
13	DB3	Data bus Line	
14	DB4	Data bus Line	
15	DB5	Data bus Line	
16	DB6	Data bus Line	
17	DB7	Data bus Line	
18	RST	Reset Signal	
19	LED+	Power Supply for BKL	5.0V
20	LED-	Power Supply for BKL	

## Block Diagram



## Power Supply Diagram



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Absolute Maximum Ratings						
Item	Symbol	Condition	Min	Typ	Max	Unit
Power Supply ( LOGIC)	Vdd	25°C	-0.3	---	7.0	V
Power Supply (LCD)	V0	25°C	Vdd -19.00	---	Vdd +0.3	V
Input Voltage	Vin	25°C	-0.3	---	Vdd +0.3	V
Operating Temperature	Vopr	---	-20	---	70	C
Storage Temperature	Vstg	---	-30	---	80	C

Electronic Characteristics						
Item	Symbol	Condition	Min	Typ	Max	Unit
Input Voltage	Vlcm = Vdd	---	---	5.0	---	V
Supply Current	Idd	Vdd=5V	---	1.50	---	mA
Driving Voltage for LCD Panel	Vlcd = (Vdd - V0)	-20°C	4.25	---	4.70	V
		0°C	4.20	---	4.55	
		25°C	4.20	---	4.50	
		50°C	4.10	---	4.45	
		70°C	3.90	---	4.40	

LCD Characteristics						
For STN/FSTN LCD Panel Types						
Item	Symbol	Condition	Min	Typ	Max	Unit
Viewing Angle	$\Phi 2 - \Phi 1$	K = 4	40°	---	---	Deg
	$\Theta$		60°			
Contrast Ratio	K	---	---	10	---	---
Response Time (Rise)	TR	---	---	150	250	ms
Response Time (Fall)	TF	---	---	150	250	ms

LED Characteristics						
Item	Symbol	Condition	Min	Typ	Max	Unit
LED Forward Voltage	Vf	25°C If=15mA	2.8	---	3.1	V
LED Forward Current*	If	25°C	---	15	---	mA
LED Reverse Current	Ir	25°C Vr=5.0V	---	---	10	A
LED Colour Range	X Coordinate	25°C If=15mA	0.26	---	0.30	---
	Y Coordinate		0.27	---	0.31	---
LED Brightness (Without LCD)	Lv	25°C If=15mA	---	240	---	cd/m <sup>2</sup>
LED Brightness Uniformity	Lvmin/Lvmax	25°C If=15mA	70	---	---	Ratio
LED Life Time	---	25°C If=15mA	9K	---	---	Hours

**Attention:** It is constant current, not constant voltage, which should be applied when driving the LED backlight, please ensure you adhere to this rule.

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