


MC128064A6W-BNMLW-V2	128 x 64	LCD Module
<b>Specification</b>		
Version: 1	Date: 31/10/2016	
<b>Revision</b>		

Display Features						
Resolution	128 x 64					
Appearance	White on Blue					
Logic Voltage	5V					
Interface	Parallel					
Font Set	N/A					
Display Mode	Transmissive					
LC Type	BSTN					
Module Size	93.00 x 70.00 x 13.00					
Operating Temperature	-20°C ~ +70°C					
Construction	COB					
LED Backlight	White	<table border="1"> <tr> <td>Box Quantity</td> <td>Weight / Display</td> </tr> <tr> <td>30 pcs</td> <td>75 grams</td> </tr> </table>	Box Quantity	Weight / Display	30 pcs	75 grams
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30 pcs	75 grams					

\* - For full design functionality, please use this specification in conjunction with the NT7107 specification. (Provided Separately)

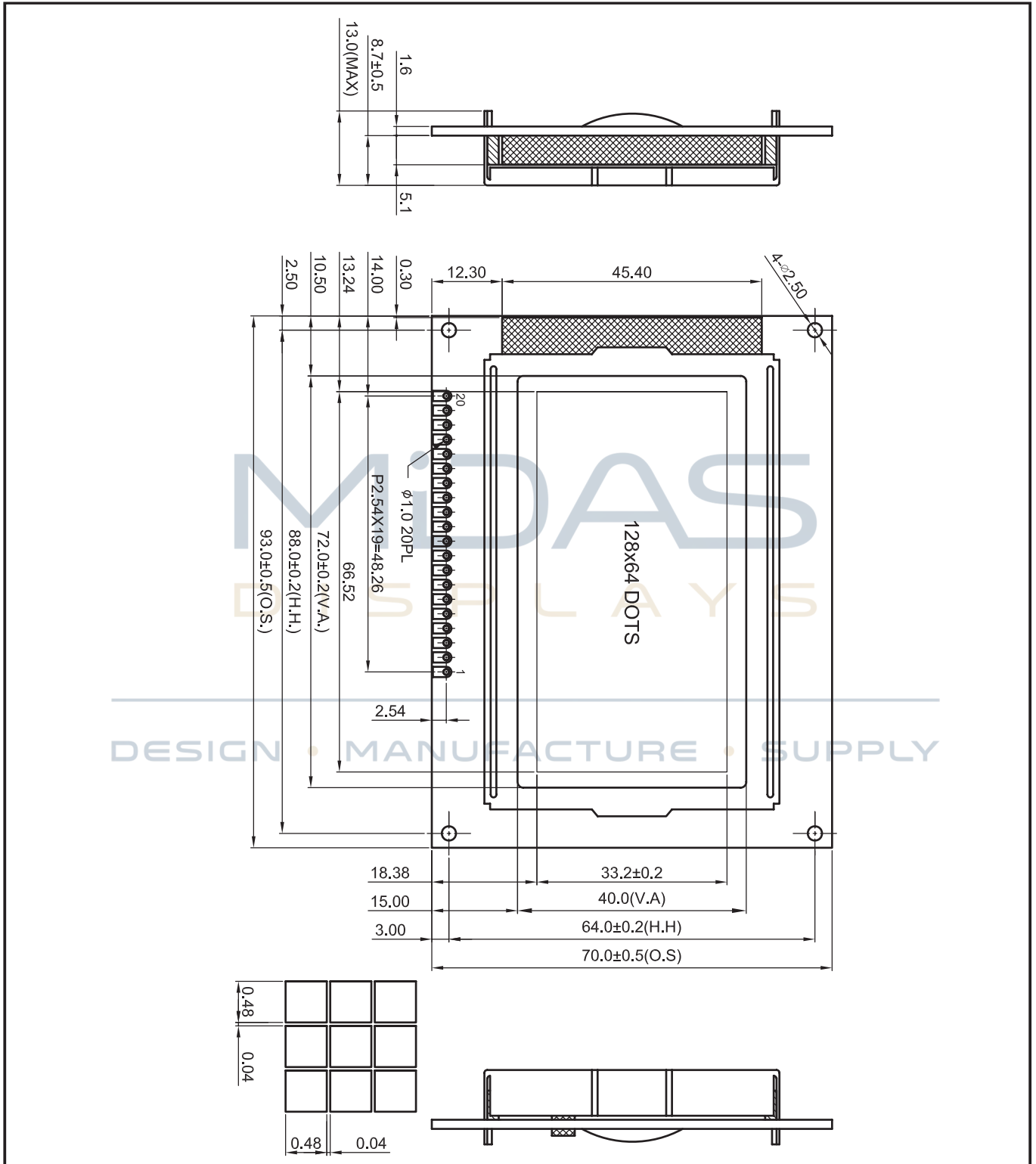
Display Accessories	
Part Number	Description
VBWFD1	USB PIC18F2550 microcontroller board to 20-way Single in-line COB Graphic LCD.

Optional Variants	
Appearances	Voltage
Black on White Black on Yellow/Green	3V



## Mechanical Specifications

Module Size	93.00 x 70.00 x 13.00 ( With Backlight)				W x H x D mm
Viewing Area	72.00 x 40.00	W x H mm	Hole-to-Hole	88.00 x 64.00	W x H mm
Dot Size	0.48 x 0.48	W x H mm	Dot Pitch	0.04 x 0.04	W x H mm



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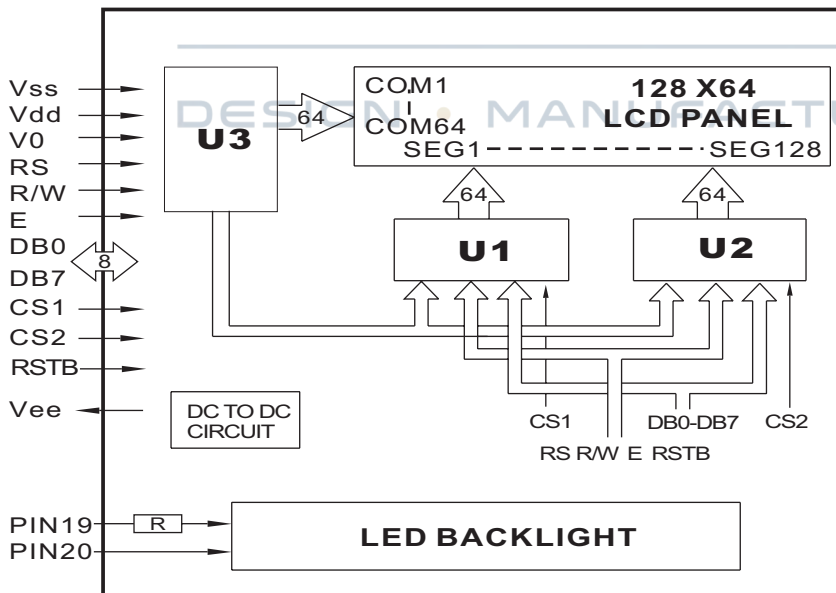


# Pin Layout

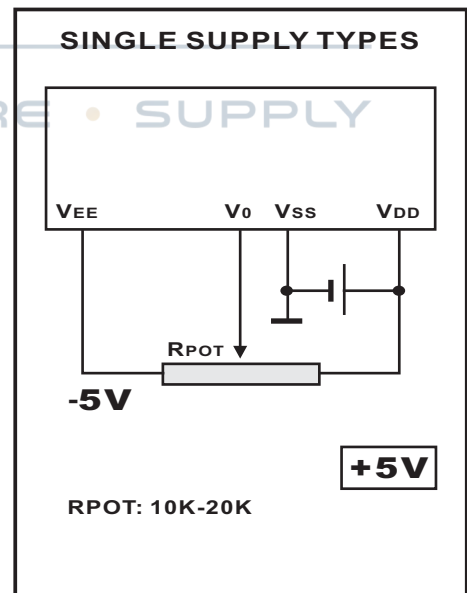
Dj_b	Gna Vc`	8 YgW]dhjcb	FYa Uf_g
1	Vss	GND	
2	Vdd	Power Supply for LCM	5.0V
3	V0	Contrast Adjust	
4	RS	Register Select Signal	
5	R/W	Data Read / Write	
6	E	Enable Signal	
7	DB0	Data bus Line	
8	DB1	Data bus Line	
9	DB2	Data bus Line	
10	DB3	Data bus Line	
11	DB4	Data bus Line	
12	DB5	Data bus Line	
13	DB6	Data bus Line	
14	DB7	Data bus Line	
15	CS1	When CS1=H, CS2=L, Select U1	
16	CS2	When CS1=L, CS2=H, Select U2	
17	RST	Reset Signal	
18	VEE	Negative Voltage Output	
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	---	2.5	---	mA
Driving Voltage for LCD Panel	Vlcd = (Vdd - V0)	-20°C	8.90	---	9.15	V
		0°C	8.50	---	8.80	
		25°C	8.40	---	8.70	
		50°C	8.30	---	8.60	
		70°C	7.85	---	8.20	

### 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=25mA	---	5.0	---	V
LED Forward Current*	If	25°C	---	25	---	mA
LED Reverse Current	Ir	25°C Vr=5.0V	---	---	20	μA
LED Colour Range	X Coordinate	25°C If=25mA	0.26	---	0.30	---
	Y Coordinate		0.27	---	0.31	---
LED Brightness (Without LCD)	Lv	25°C If=25mA	---	310	---	cd/m <sup>2</sup>
LED Brightness Uniformity	Lvmin/Lvmax	25°C If=25mA	70	---	---	Ratio
LED Life Time	---	25°C If=25mA	---	50K	---	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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