


MC128064A6W-GPTLY-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	Black on Yellow/Green				
Logic Voltage	5V				
Interface	Parallel				
Font Set	N/A				
Display Mode	Transflective				
LC Type	STN				
Module Size	93.00 x 70.00 x 13.00				
Operating Temperature	-20°C ~ +70°C				
Construction	COB	Box Quantity	Weight / Display		
LED Backlight	Yellow/Green	30 pcs	79.16 grams		

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

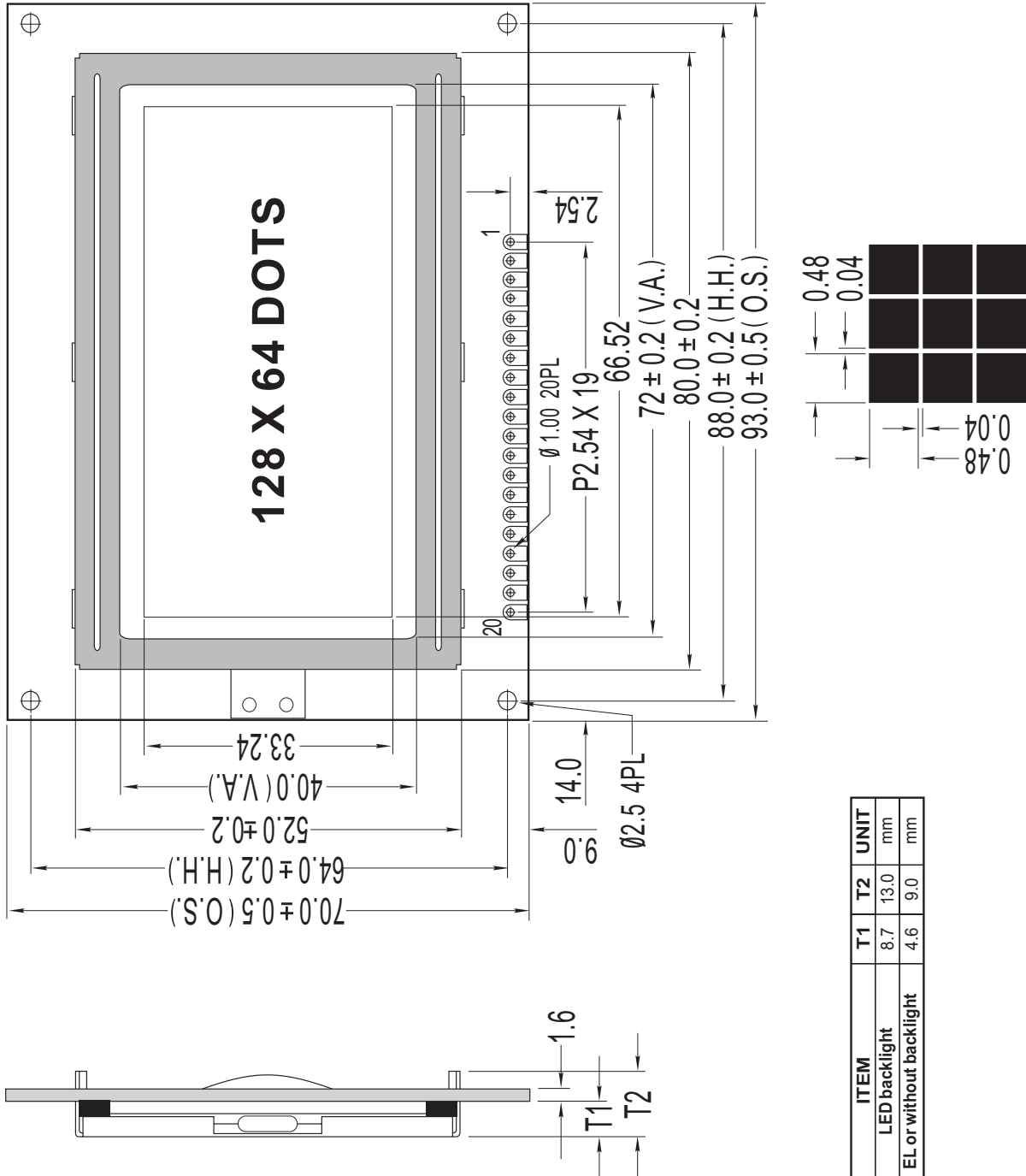
Display Accessories	
Part Number	Description
VBWFD1	USB PIC18F2550 microcontroller board to 20-way Single in-line COB Graphic LCD.

Optional Variants	
Appearances	Voltage
Black on white White on Blue	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

### 8.EXTERNAL DIMENSIONS



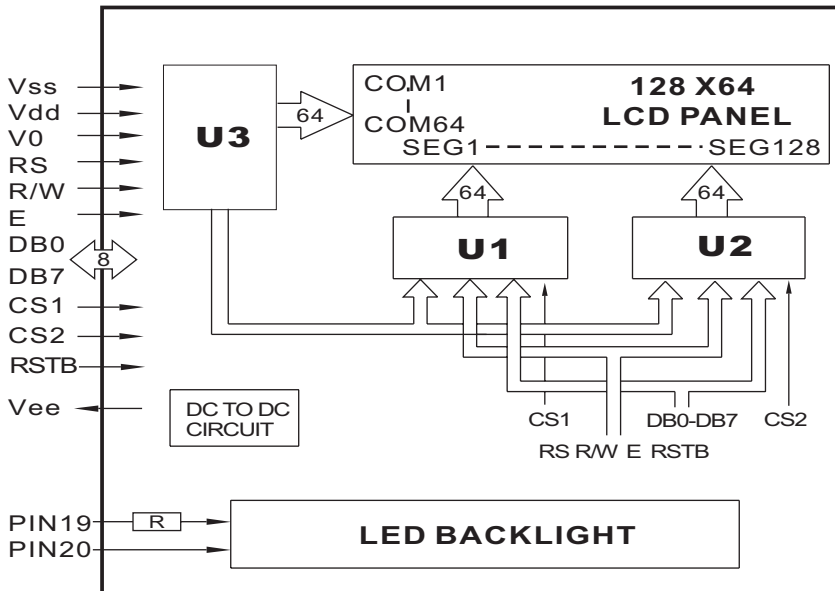
ITEM	T1	T2	UNIT
LED backlight	8.7	13.0	mm
EL or without backlight	4.6	9.0	mm

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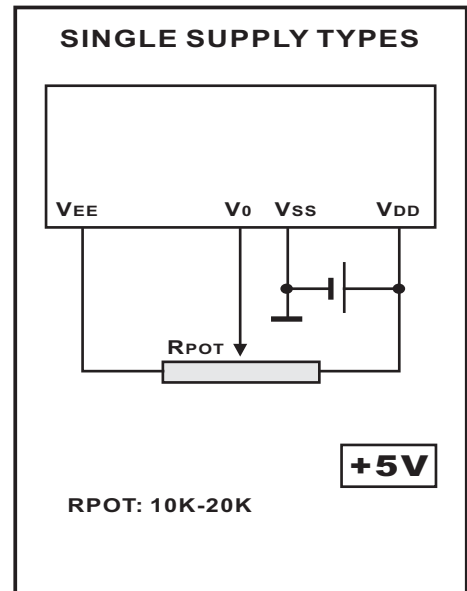
# Pin Layout

Pin No.	Symbol	Description	Voltage
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	Chip 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+	Anode of LED Unit	5.0V
20	LED-	Cathode of LED Unit	

## 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	Vdd	+5V	2.7	5.0	5.5	v
Supply Current	Idd	Vdd=5V	---	2.1	---	mA
Driving Voltage for LCD Panel	Vlcd = (Vdd - V0)	-20°C	8.40	---	9.00	v
		0°C	8.20	---	8.80	
		25°C	8.10	8.40	8.70	
		50°C	8.00	---	8.60	
		70°C	7.85	---	8.45	

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	---	---	6	---	---
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	3.8	---	4.4	V
LED Forward Current*	If	25°C	---	330	---	mA
LED Reverse Current	Ir	25°C	---	---	330	μA
LED Peak Wave Length	$\lambda p$	25°C If=30mA	568	---	575	nm
LED Brightness (Without LCD)	Lv	25°C If=30mA	180	---	220	cd/m <sup>2</sup>
---	---	---	---	---	---	---
LED Life Time	---	25°C If=30mA	100K	---	---	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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