

MC128064C6W-BNMLW-V2	128 x 64	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 Transflective
Backlight	LED White
Controller	NT7107
Characters	128 x 64
Voltage	5V
Module Size	75.00 x 52.70 x 13.00 mm
Display Construction	Chip on Board



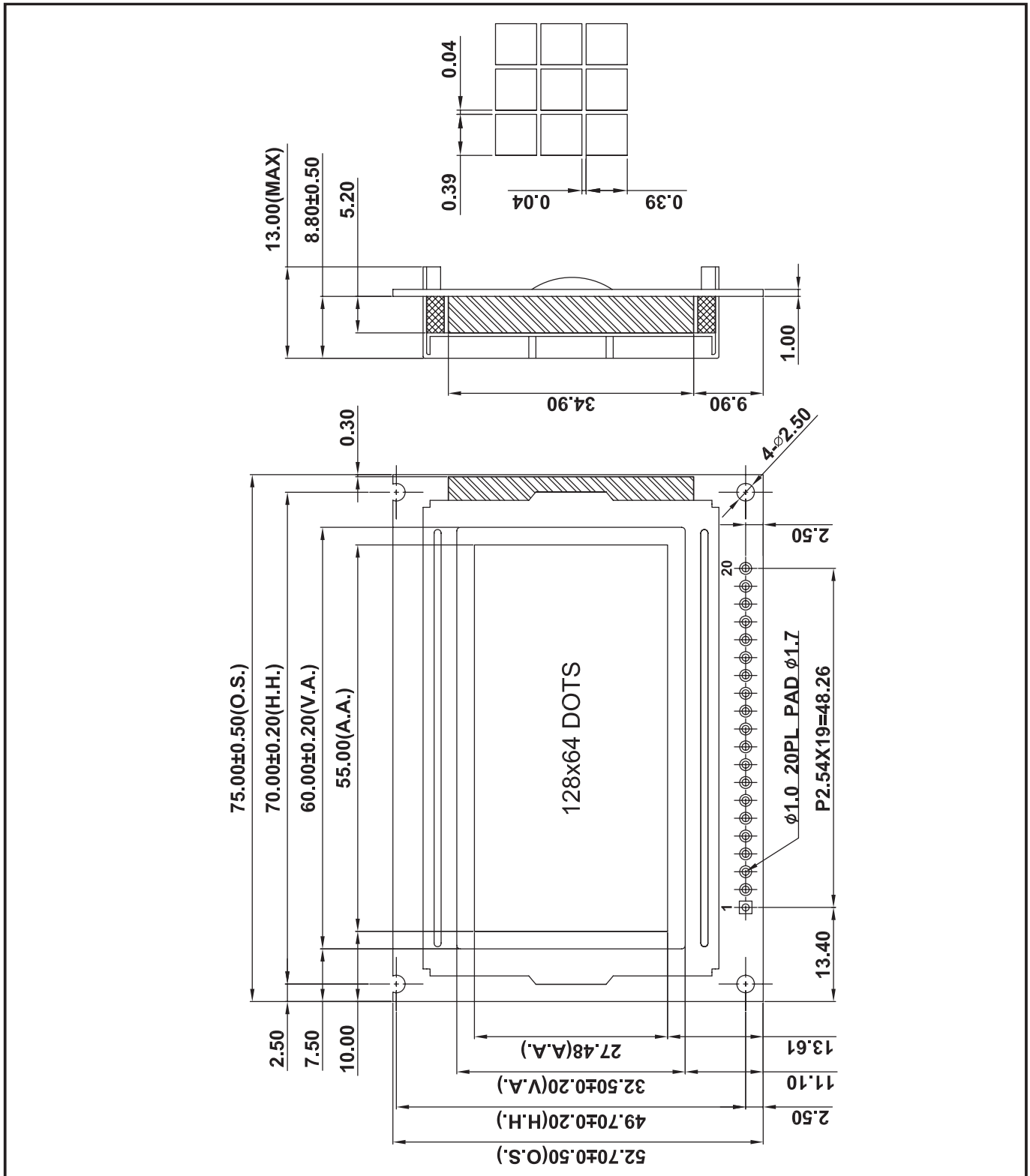
Box Quantity	Weight / Display
45 pcs	36.11 grams

\* - For full design functionality, please use this specification in conjunction with the NT7107 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	75.00 x 52.70 x 13.00 ( With Backlight)				W x H x D mm
Viewing Area	60.00 x 32.50	W x H mm	Hole-to-Hole	70.00 x 49.70	W x H mm
Dot Size	0.39 x 0.39	W x H mm	Dot Pitch	0.04 x 0.04	W x H mm

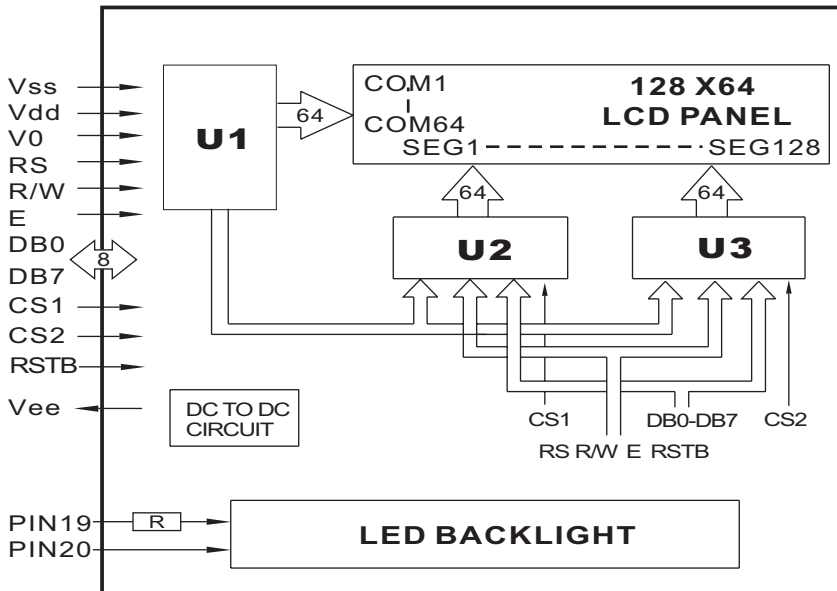


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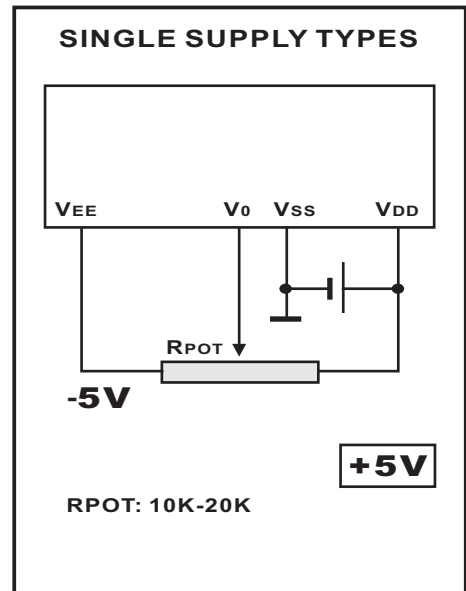
# Pin Layout

Pin	Symbol	Description	Voltage
1	Vdd	Power Supply for LCM	5.0V
2	Vss	GND	
3	V0	Contrast Adjust	
4	DB0	Data bus Line	
5	DB1	Data bus Line	
6	DB2	Data bus Line	
7	DB3	Data bus Line	
8	DB4	Data bus Line	
9	DB5	Data bus Line	
10	DB6	Data bus Line	
11	DB7	Data bus Line	
12	CS1	When CS1=H, CS2=L, Select U2	
13	CS2	When CS1=L, CS2=H, Select U3	
14	RST	Reset Signal	
15	R/W	Read / Write	
16	D/I	H/L H: Data, L: Instruction Code	
17	E	Enable 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	8.30	---	8.65	V
		0°C	---	---	---	
		25°C	7.80	8.20	8.30	
		50°C	---	---	---	
		70°C	7.60	---	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	A
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	---	450	---	cd/m <sup>2</sup>
LED Brightness Uniformity	Lvmin/Lvmax	25°C If=25mA	70	---	---	Ratio
LED Life Time	---	25°C If=25mA	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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