

MC128064D6W-BNMLW-V2	128 x 64	Font Set	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	RA6963
Characters	128 x 64
Voltage	5V
Module Size	78.00 x 70.00 x 15.00 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 RA6963 specification. (Provided Separately)

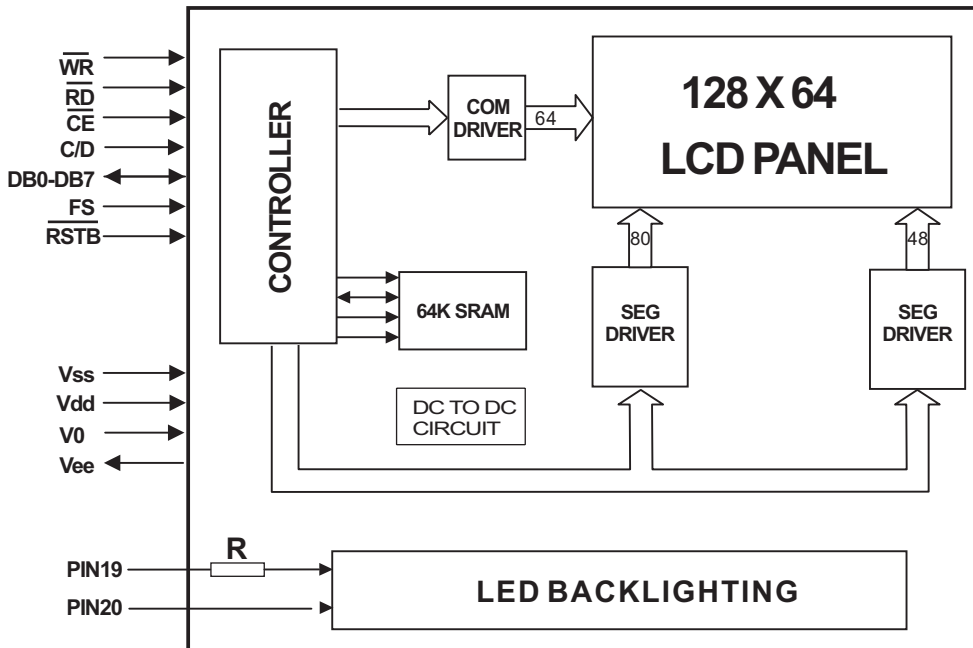
<b>Optional Variants</b>			<b>Display Accessories</b>	
Fonts	Physical Aspects	Voltage	Part Number	Description
N/A	N/A	N/A	MCCMDB-16SIL	LCD interconnect board, can be driven from either a PC or a single board computer with a USB output.



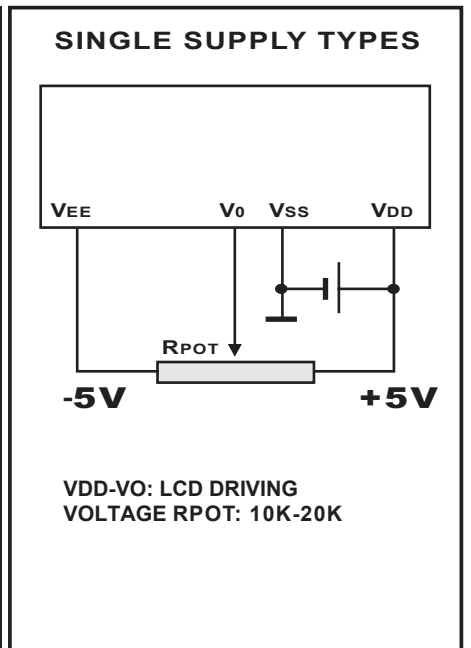
# Pin Layout

Pin	Symbol	Description	Voltage
1	V <sub>ee</sub>	Negative Voltage Output	
2	V <sub>ss</sub>	Power Supply for LCM	
3	V <sub>dd</sub>	Power Supply for LCM	5.0V
4	V <sub>0</sub>	Contrast Adjust	
5	WR	Data Write	
6	RD	Data Read	
7	CE	Chip Enable	
8	C/D	Command / Data Select	
9	RST	Reset Signal	
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	FS	Font Selection	
19	LED+	Power Supply for BKL	5.0V
20	LED-	Power Supply for BKL	

## Block Diagram



## Power Supply Diagram



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# Font Map

## ROM Code 0101

MSB \ LSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1																
2																
3																
4																
5																
6																
7																

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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	---	6.0	---	mA
Driving Voltage for LCD Panel	Vlcd = (Vdd - V0)	-20°C	8.20	---	9.20	V
		0°C	---	---	---	
		25°C	7.60	---	8.00	
		50°C	---	---	---	
		70°C	7.60	---	8.00	

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	---	---	30	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	---	330	---	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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