

MCOT256064B1A-WM	256 x 64	White	OLED Module
<b>Specification</b>			
Version: 3		Date: 03/10/2017	
<b>Revision</b>			
1	23/06/2014	First Release.	
2	03/12/2014	Modify Electrical Characteristics & Brightness.	
3	22/12/2015	Modify Life Time.	

Display Features		Box Quantity	Weight / Display
Resolution	256 x 64		
Appearance	White on Black		
Logic Voltage	5V		
Interface	Parallel / Serial		
Module Size	88.00 x 27.80 x 2.05		
Operating Temperature	-40°C ~ +80°C		
Construction	TAB		

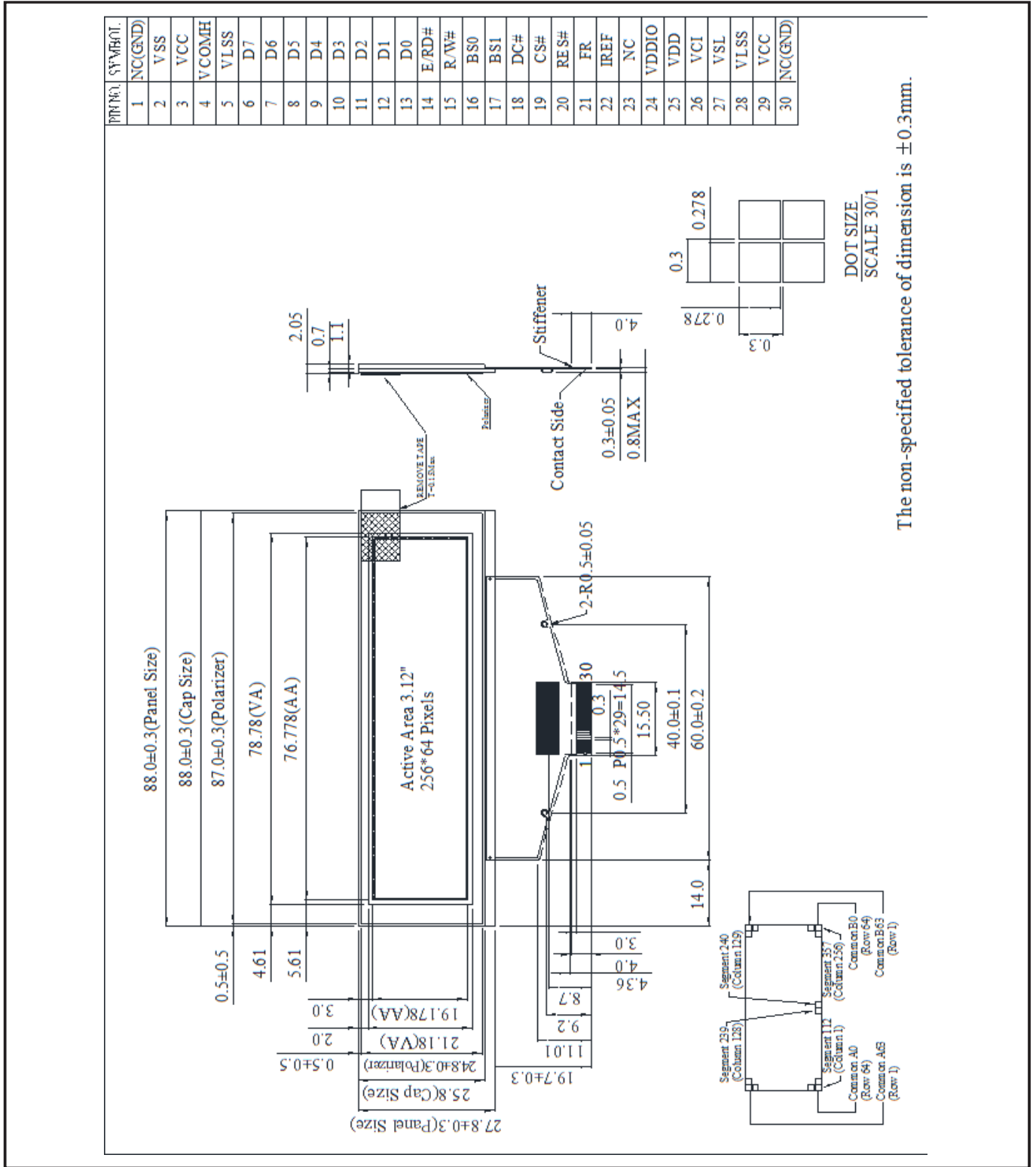
\* - For full design functionality, please use this specification in conjunction with the SSD1322 specification.(Provided Separately)

Display Accessories	
Part Number	Description
MPBV4-Iss2	Interface board compatible with any display that requires a direct solder connection to 0.7, 0.8 , 0.845 or 1 mm. Supports any driver board that can be wired to a 2mm pitch 44-way DIL.

Optional Variants	
Appearance	Voltage
Green on Black	
Blue on Black	
Yellow on Black	

# Mechanical Specifications

Module Size	88.00 x 27.80 x 2.05 (Without Backlight)				W x H x D mm
Active Area	76.778 x 19.178	W x H mm	Hole-to-Hole	--	W x H mm
Dot Size	0.278 x 0.278	W x H mm	Dot Pitch	0.30 x 0.30	W x H mm



The non-specified tolerance of dimension is ±0.3mm.

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## Pin layout

Pin	Symbol	Description	Remarks
1	NC	No Connection. Must connect to external Ground.	
2	VSS	<b>Ground of Logic Circuit.</b> Ground pin, also acts as a reference for logic pins. Must connect to external ground.	
3	VCC	<b>Power Supply for OLED Panel.</b> Most positive voltage supply pin of the chip. They must be connected to external source.	
4	VCOMH	<b>Voltage Output High Level for COM Signal.</b> Input pin for the voltage output high level for COM signals. A tantalum capacitor should be connected between this pin and VSS.	
5	VLSS	<b>Ground of Analogue Circuit.</b> These are the analogue ground pins. They should be connected to VSS externally.	
6~13	D7~D0	<b>Host Data Input / Output Bus.</b> 8-bit bi-directional data bus pins to be connected to the microprocessor's data bus. When serial mode is selected, D1 will be the serial data input SDIN and D0 will be the serial clock input SCLK. Unused pins must be connected to VSS except for D2 in serial mode	
14	E/RD#	<b>Read / Write Enable or Read.</b> MCU interface input. When interfacing to a 6800 microprocessor, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled high and the CS# is pulled low. When connecting to an 8080 microprocessor, this pin receives the Read (RD#) signal. Data read operation is initiated when this pin is pulled low and CS# is pulled low. When serial mode is selected, this pin must be connected to VSS.	
15	R/W#	<b>Read / Write Select or Write.</b> MCU interface input. When interfacing to a 6800 series microprocessor, this pin will be used as Read/Write (R/W#) selection input. Pull this pin to "High" for read mode and pull it to "Low" for write mode. When 8080 interface mode is selected, this pin will be the Write (WR#) input. Data write operation is initiated when this pin is pulled low and the CS# is pulled low. When serial mode is selected, this pin must be connected to VSS.	
16	BS0	<b>Communicating Protocol Select.</b> MCU interface selection input. See below table: 3-Wire SPI: BS0=1 BS1=0 4-Wire SPI: BS0=0 BS1=0 6800 Parallel: BS0=1 BS1=1 8080 Parallel: BS0=0 BS1=1	
17	BS1		
18	D/C#	<b>Data / Command Control.</b> When the pin is pulled high, the input at D7~D0 is treated as display data. When the pin is pulled low, the input at D7~D0 will be transferred to the command register.	
19	CS#	<b>Chip Select.</b> Chip Select Input. The chip is enabled for MCU communication only when CS# is pulled low.	
20	RES#	<b>Power Reset for Controller and Driver.</b> Reset signal input. When the pin is low, initialization of the chip is executed.	
21	FR	<b>Frame Frequency Triggering Signal.</b>	

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		This pin will send out a signal that could be used to identify the driver status. Nothing should be connected to this pin. It should be left open individually.	
22	IREF	<b>Current Reference for Brightness Adjustment.</b> Segment current reference pin. A resistor should be connected between this pin and VSS. Set the current lower than 10uA.	
23	NC	No Connection. Reserved for compatible and flexible design.	
24	VDDIO	<b>Power Supply for I/O Pin</b> Power supply pin of I/O buffer. It should be connected to VDD or external source. All I/O signal should have VIH reference to VDDIO. When I/O signal pins (BS0~BS1, D0~D7, control signals...) pull high, they should be connected to VDDIO.	
25	VDD	<b>Power Supply for Core Logic Circuit.</b> Voltage supply pin. It can be supplied externally (within the range of 2.4~2.6V) or regulated internally from VCI. A capacitor should be connected between this pin & VSS under all circumstances.	
26	VCI	<b>Power Supply for Operation.</b> This is a voltage supply pin. It must be connected to external source & always be equal to or higher than VDD & VDDIO.	
27	VSL	<b>Voltage Output Low Level for SEG Signal.</b> This is segment voltage reference pin. When external VSL is not used, this pin should be left open. When external VSL is used, this pin should connect with resistor and diode to ground.	
28	VLSS	<b>Ground of Analogue Circuit.</b> These are the analogue ground pins. They should be connected to VSS externally.	
29	VCC	<b>Power Supply for OLED Panel.</b> Most positive voltage supply pin of the chip. They must be connected to external source.	
30	NC	No Connection. Must connect to external Ground.	

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Absolute Maximum Ratings						
Item	Symbol	Condition	Min	Typ	Max	Unit
Power Supply (Logic)	VDD	25°C	-0.5	---	2.75	V
Power Supply (Display)	VCC	25°C	-0.5	---	20.00	V
Supply Operation Voltage	VCI	---	-0.3	---	4.00	V
Supply Voltage for I/O Pins	VDDIO	---	-0.5	---	VCI	V
Operating Temperature	TOP	---	-40	---	80	°C
Storage Temperature	TSTG	---	-40	---	80	°C

Electronic Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input High Voltage	VIH	---	0.8xVDD	---	VDD	V
Input Low Voltage	VIL	---	0	---	0.2xVDD	V
Output High Voltage	VOH	---	0.9xVDD	---	VDD	V
Output Low Voltage	VOL	---	0	---	0.1xVDD	V
Supply Voltage for Logic	VDD	---	2.80	3.00	3.30	V
Supply Voltage for Display	VCC	---	10.00	12.00	15.00	V
CIE <sub>x</sub> (White)	---	x,y(CIE1931)	0.26	0.28	0.30	---
CIE <sub>y</sub> (White)	---	x,y(CIE1931)	0.30	0.32	0.34	---
50% Check Board Operating Current.	IDD	VCC=12V	22.00	24.00	27.00	mA

OLED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	(V) $\theta$	---	160	---	---	Deg
	(H) $\phi$	---	160	---	---	Deg
Contrast Ratio	CR	Dark	2000:1	---	---	---
Response Time	T Rise	---	---	10	---	$\mu$ s
	T Fall	---	---	10	---	$\mu$ s
Display with 50% check board brightness.		---	60	80	---	Nits

OLED Life Time			
Item	Conditions	Typical	Remark
Operating Life Time	T <sub>a</sub> =25°C. Initial checkboard brightness,.	50,000 Hours	---

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