

MCOT128064U1V-WM	128 x 64	White	OLED Module
<b>Specification</b>			
Version: 1		Date: 07/06/2017	
<b>Revision</b>			
0	27/04/2017	First release	

Display Features		RoHS compliant	Box Quantity	Weight / Display
Resolution	128 x 64			
Appearance	White on Black			
Logic Voltage	3V			
Interface	Parallel / SPI / I2C			
Module Size	73.00 x 41.86 x 2.05			
Operating Temperature	-40°C ~ +80°C	---	---	
Construction	TAB	---	---	

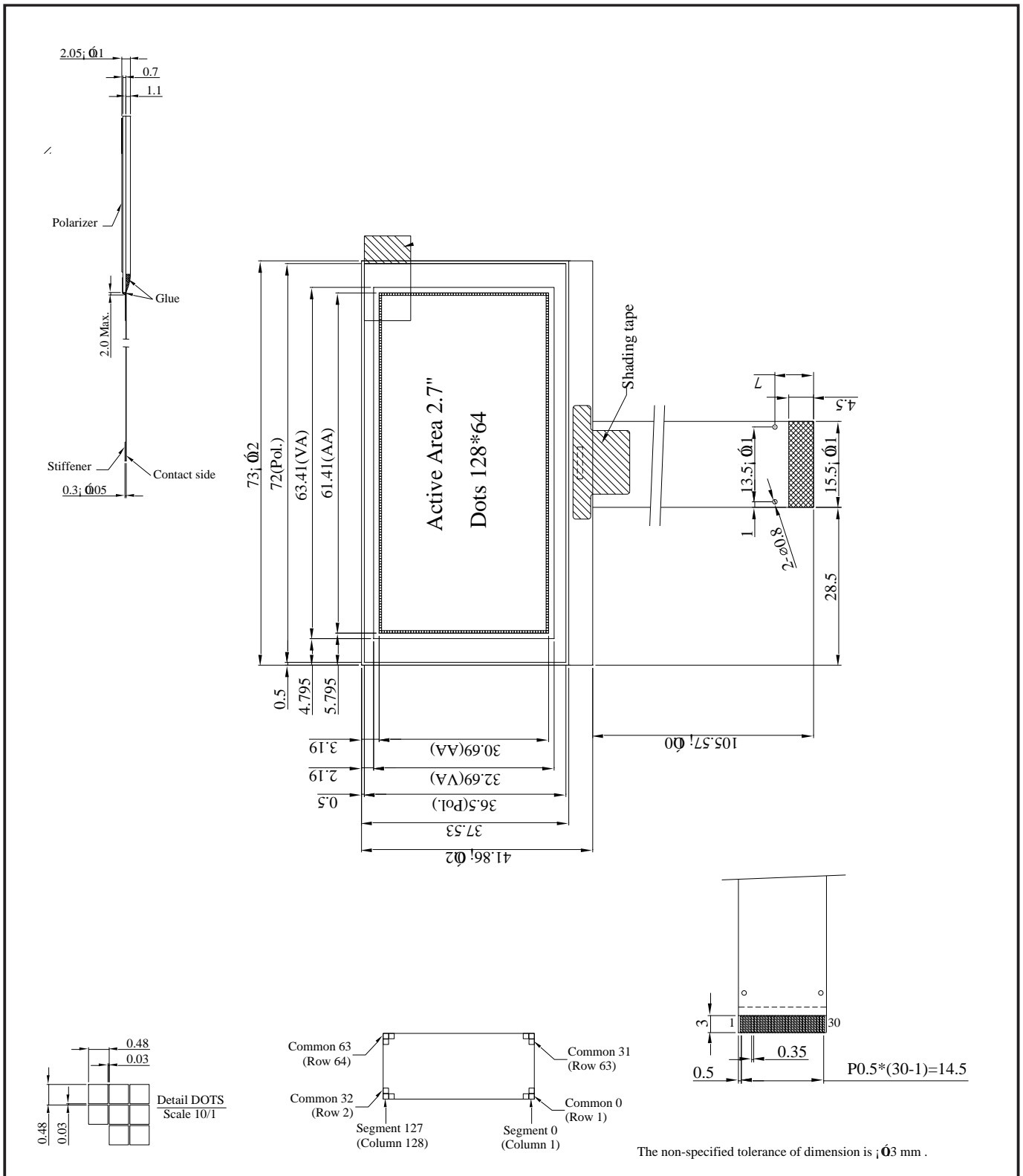
\* - For full design functionality, please use this specification in conjunction with the SSD1309 specification. (Provided Separately)

Display Accessories	
Part Number	Description
MPBV7	30 Way FFC to cable and wires. Driven by any driver board that can be wired to a 1mm pitch SHDR-30V-S-B receptacle.
MCIB-12	UC32 Breakout Board with SD card and LED back light driver. Used in conjunction with MPBV6.

Optional Variants	
Appearance	Voltage
Blue on Black	
Yellow on Black	

# Mechanical Specifications

Module Size	73.00 x 41.86 x 2.05 ( With Backlight)				W x H x D mm
Viewing Area	63.41 x 32.69	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.48 x 0.48	W x H mm	Dot Pitch	0.48 x 0.48	W x H mm



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Pin layout			
Pin	Symbol	Description	Remarks
1	NC	No Connection.	
2	VCC	Power supply driving voltage.	
3	VCOMH	COM signal deselected voltage level. Connect capacitor between here and VSS.	
4	IREF	Segment output current reference pin. Supplied externally.	
5-12	D0~D7	Bi-directional data bus connecting to the MCU data bus. Unused pins to tie Low. SPI Mode = D0 is Serial Clock input (SCLK) D1 will be Serial Data input (SDIN), D2 to be kept NC. I2C Mode = D2, D1 tied together serving as SDAout. SDAin in application and D0 is the Serial Clock input (SCL).	
13	E/RD#	MCU interface input. 6800 selected = Pin used as Enable (E) Signal. Read/write initiated when pin pulled High and chip selected. 8080 selected = Pin receives Read (RD#) Signal. Read initiated when pin pulled Low and chip selected. I2C / SPI selected = Connect to VSS.	
14	R/W#	Read / Write control input connecting to MCU interface. 6800 Mode = Pin used as Read/write (R/W#) selection input. Read mode when pin is pulled High; Write mode when pulled Low. 8080 Mode = Pin used as Write (WR#) input. Data Write initiated when pin pulled Low and chip selected. I2C / SPI selected = Connect to VSS.	
15	D/C#	Data / Command control pin connecting to MCU. Pulled High= D(7:0) interpreted as data. Pulled Low = D(7:0) transferred to a command register. I2C Mode = Pin acts as SA0 for slave address selection. 3-Wire SPI Mode = Connect to VSS	
16	RES#	Reset Signal Input. Initialisation executed when pulled Low. Keep pulled High during normal operation.	
17	CS#	Chip Select Input connecting to the MCU. Chip is enabled when CS# is pulled Low.	
18	NC	No Connection.	
19	BS2	MCU bus interface pins. Select appropriate logic settings: I2C: BS1= 1 BS2= 0 4-Wire SPI: BS1= 0 BS2= 0 6800 Parallel: BS1= 0 BS2= 1 8800 Parallel: BS1= 1 BS2= 1	
20	BS1		
21	VDD	Power Supply pin for core logic operation.	
22~28	NC	No Connection	
29	VSS	Ground	
30	NC	No Connection.	

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Absolute Maximums Ratings					
Item	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage for Display	V <sub>I</sub>	0.00	---	15.00	V
Supply Voltage for Logic	V <sub>O</sub>	-0.30	---	4.00	V
Operating Temperature	V <sub>opr</sub>	-40	---	80	°C
Storage Temperature	V <sub>stg</sub>	-40	---	80	°C

Electronic Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input High Voltage	V <sub>IH</sub>	---	0.80	---	V <sub>DD</sub>	V
Input Low Voltage	V <sub>IL</sub>	---	GND	---	0.20	V
Output High Voltage	V <sub>OH</sub>	---	0.90	---	V <sub>DD</sub>	V
Output Low Voltage	V <sub>OL</sub>	---	GND	---	0.10	V
Supply Voltage for Logic	V <sub>DD</sub>	---	2.80	3.00	3.30	V
Supply Voltage for Display	V <sub>CC</sub>	---	12.50	13.00	13.50	V
50% Checkboard Operating Current.	I <sub>DD</sub>	V <sub>DD</sub> =5V	20	22	24	mA

OLED Characteristics						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	(V)θ	---	160	---	---	Deg
	(H)φ	---	160	---	---	Deg
Contrast Ratio	CR	Dark	2000:1	---	---	---
Response Time	T Rise	---	---	10	---	μs
	T Fall	---	---	10	---	μs
Display with 50% Checkboard Brightness			60	80	---	cd/m <sup>2</sup>
CIE <sub>x</sub> (White)		(CIE1931)	0.26	0.28	0.30	---
CIE <sub>y</sub> (White)		(CIE1931)	0.30	0.32	0.34	---

OLED Life Time			
Item	Conditions	Typical	Remark
Operating Life Time	T <sub>a</sub> =25°C. Initial checkboard brightness, 50%.	20,000 Hours	---

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