MIDAS Displays
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MCOT256064A1A-BM	256 x 64	Blue	OLED Module

Specification

Version: 4	Date: 03/10/2017

Revision

1	31/07/2014	First Revision.
2	22/12/2015	Modify Life Time.
3	01/06/2016	Modify Static Electricity Test.
4	20/09/2017	Modify Reliability test condition.

Display Features			
Resolution	256 x 64		
Appearance	Blue on Black		
Logic Voltage	5V		
Interface	Parallel / Serial		
Module Size	84.00 x 25.80 x 2.05		
Operating Temperature	-40°C ~ +70°C	Box Quantity	Weight / Display
Construction	TAB	---	---

RoHS compliant

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

Display Accessories

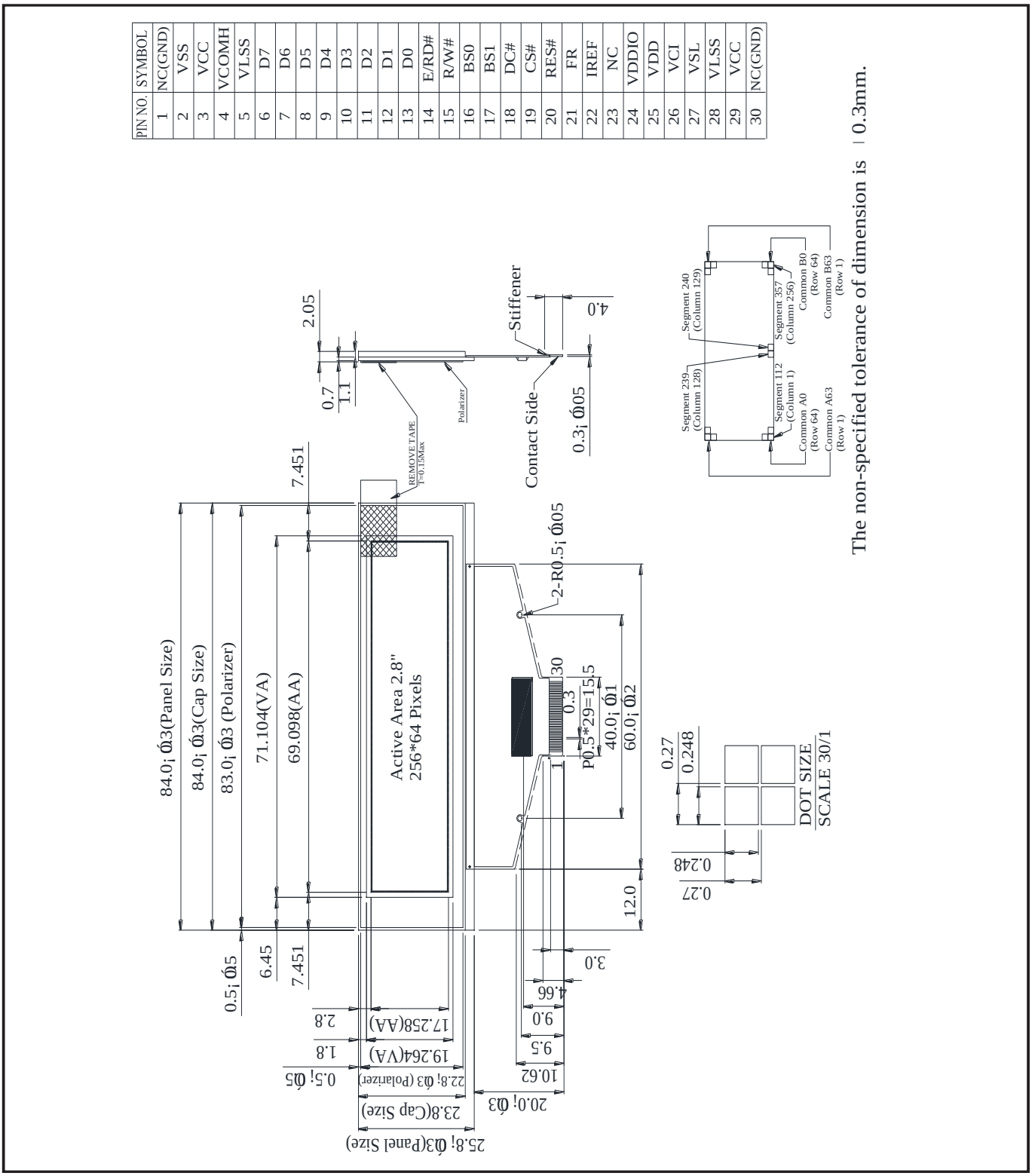
Part Number	Description
MPBV4-Iss2	Interface board compatible with any display that requires a direct solder connection to 0.7, 0.8 , 0.845 or 1 mm. Supports any driver board that can be wired to a 2mm pitch 44-way DIL.

Optional Variants

Appearance	Voltage
Yellow on Black Green on Black Red on Black	

Mechanical Specifications

Module Size	84.00 x 25.80 x 2.05 (Without Backlight)				W x H x D mm
Active Area	69.098 x 17.258	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.248 x 0.248	W x H mm	Dot Pitch	0.27 x 0.27	W x H mm



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Pin layout

Pin	Symbol	Description	Remarks
1	NC	No Connection. Must connect to external Ground.	
2	VSS	**Ground of Logic Circuit.** Ground pin, also acts as a reference for logic pins. Must connect to external ground.	
3	VCC	**Power Supply for OLED Panel.** Most positive voltage supply pin of the chip. They must be connected to external source.	
4	VCOMH	**Voltage Output High Level for COM Signal.** Input pin for the voltage output high level for COM signals. A tantalum capacitor should be connected between this pin and VSS.	
5	VLSS	**Ground of Analogue Circuit.** These are the analogue ground pins. They should be connected to VSS externally.	
6~13	D7~D0	**Host Data Input / Output Bus.** 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#	**Read / Write Enable or Read.** 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#	**Read / Write Select or Write.** 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	**Communicating Protocol Select.** 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#	**Data / Command Control.** 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#	**Chip Select.** Chip Select Input. The chip is enabled for MCU communication only when CS# is pulled low.	
20	RES#	**Power Reset for Controller and Driver.** Reset signal input. When the pin is low, initialization of the chip is executed.	
21	FR	**Frame Frequency Triggering Signal.**	

		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	**Current Reference for Brightness Adjustment.** 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	**Power Supply for I/O Pin** 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	**Power Supply for Core Logic Circuit.** 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	**Power Supply for Operation.** This is a voltage supply pin. It must be connected to external source & always be equal to or higher than VDD & VDDIO.	
27	VSL	**Voltage Output Low Level for SEG Signal.** 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	**Ground of Analogue Circuit.** These are the analogue ground pins. They should be connected to VSS externally.	
29	VCC	**Power Supply for OLED Panel.** Most positive voltage supply pin of the chip. They must be connected to external source.	
30	NC	No Connection. Must connect to external Ground.	

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	---	70	°C
Storage Temperature	TSTG	---	-40	---	80	°C

Electronic Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input High Voltage	VIH	---	0.8xVDDIO	---	VDDIO	V
Input Low Voltage	VIL	---	0	---	0.2xVDDIO	V
Output High Voltage	VOH	---	0.9xVDDIO	---	VDDIO	V
Output Low Voltage	VOL	---	0	---	0.1xVDDIO	V
Power Supply for I/O Pins	VDDIO	---	1.65	3.00	VCI	
Low Voltage Power Supply	VCI	---	2.40	3.00	3.50	
Supply Voltage for Logic	VDD	---	2.40	2.50	2.60	V
Supply Voltage for Display	VCC	---	14.00	14.50	15.00	V
CIEx(Blue)	---	x,y(CIE1931)	0.12	0.16	0.20	---
CIEy(Blue)	---	x,y(CIE1931)	0.19	0.23	0.27	---
50% Check Board Operating Current.	IDD	VCC=14.5V	23.00	25.00	32.00	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% check board brightness.		---	60	80	---	Nits

OLED Life Time

Item	Conditions	Typical	Remark
Operating Life Time	Ta=25°C. Initial checkboard brightness,.	50,000 Hours	---

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