

MCOT064048A1V-BM	64 x 48	Blue	OLED Module
Specification			
Version: 1		Date: 19/07/2017	
Revision			
1	14/09/2016	First release	

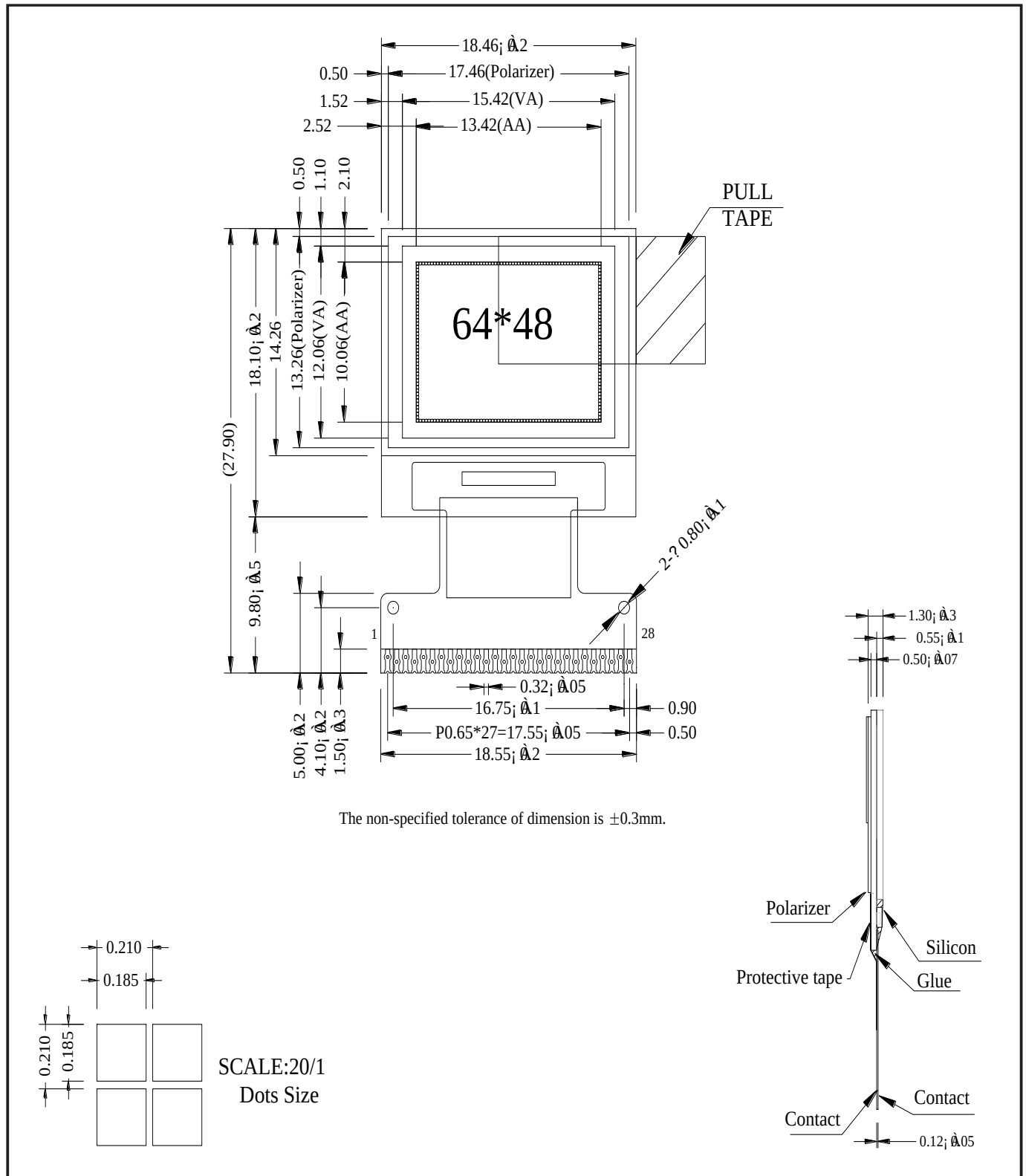
Display Features			
Resolution	64 x 48		
Appearance	Blue on Black		
Logic Voltage	3V		
Interface	Parallel / SPI / I2C		
Module Size	18.46 x 18.10 x 1.30 mm		
Operating Temperature	-40°C ~ +80°C		
Construction	TAB	Box Quantity	Weight / Display
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* - For full design functionality, please use this specification in conjunction with the SSD1306BZ specification. (Provided Separately)

Display Accessories	
Part Number	Description

Optional Variants	
Appearance	Voltage
Yellow on Black White on Black	

Mechanical Specifications					
Module Size	18.46 x 18.10 x 1.30 (Without Backlight)			W x H x D mm	
Viewing Area	15.42 x 12.06	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.185 x 0.185	W x H mm	Dot Pitch	0.210 x 0.210	W x H mm



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Pin layout			
Pin	Symbol	Description	Remarks
1	ESD-GND	Connect to Ground.	
2	C2N	Positive Terminal of the Flying Inverting Capacitor Negative Terminal of the Flying Boost Capacitor. The charge-pump capacitors are required between the terminals. They must be floated when the converter is not used.	
3	C2P		
4	C1P		
5	C1N		
6	VBAT	Power Supply for DC/DC Converter Circuit. This is the power supply pin for the internal buffer of the DC/DC voltage converter. Connect to external source when the converter is used. Connected to VDD when the converter is not used.	
7	VSS	Ground Pin.	
8	VDD	Power Supply Pin for Core Logic Operation.	
9	BS1	MCU Bus Interface Selection Pins. I2C: BS0=0 BS1=1 BS2=0 6800 (8bit): BS0=0 BS1=0 BS2=1 8080 (8bit): BS0=0 BS1=1 BS2=1 4-Wire SPI: BS0=0 BS1=0 BS2=0	
10	BS2		
11	CS#	Chip Select. This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.	
12	RES#	Power Reset for Controller and Driver This pin is reset signal input. When the pin is low, initialisation of the chip is executed.	
13	D/C#	Data / Command Control Pin. When pulled HIGH (i.e. connect to VDD), the data at D[7:0] is treated as data. When pulled LOW, the data at D[7:0] will be transferred to the command register. In I2C mode, this pin acts as SA0 for slave address selection. When 3-wire serial interface is selected, this pin must be connected to VSS.	
14	R/W#	Read / Write Control Input Pin Connecting to the MCU Interface. When interfacing to a 6800-series microprocessor, this pin will be used as Read/Write (R/W#) selection input. Read mode will be carried out when pulled HIGH (i.e. connect to VDD) and write mode when LOW.	
15	E/RD#	Enable (E) signal when Interfacing with 6800 Microprocessor. Read/write operation is initiated when pulled HIGH (i.e. connect to VDD) and the chip is selected. Read (RD#) signal when Interfacing with 8080 Microprocessor. Read operation is initiated when pulled LOW and the chip is selected. When serial or I2C interface is selected, this pin must be connected to VSS.	
16~23	D0~D7	8-bit bi-directional data bus to be connected to the microprocessor's data bus. When serial interface mode is selected, D0 will be the serial clock input: SCLK; D1 will be the serial data input: SDIN. When I2C mode is selected, D2, D1 should be tied together and serve as SDAout, SDAin in application and D0 is the serial clock input, SCL.	
24	IREF	Segment Output Current Reference Pin. When external IREF is used, a resistor should be connected between this pin and VSS to maintain the IREF current at a maximum of 30uA. When internal IREF is used, this pin should be kept NC.	
25	VCOMH	Voltage Output High Level for COM Signal.	

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		This pin is the input pin for the voltage output high level for COM signals. A capacitor should be connected between this pin and VSS.	
26	VCC	<i>Power Supply for OEL Pane.</i> This is the most positive voltage supply pin of the chip. A stabilisation capacitor should be connected between this pin and VSS when the converter is used. Connect to external source when the converter is not used.	
27	VLSS	<i>Analogue ground pin.</i> It should be connected to VSS externally.	
28	ESD GND	Connect to Ground.	

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Absolute Maximums Ratings					
Item	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage for Display	VCC	0.00	---	15.00	V
Supply Voltage for Logic	VDD	0.00	---	4.00	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	---	0.80	---	VDD	V
Input Low Voltage	VIL	---	GND	---	0.20	V
Output High Voltage	VOH	---	0.90	---	VDD	V
Output Low Voltage	VOL	---	GND	---	0.10	V
Supply Voltage for Logic	VDD	---	2.80	3.00	3.30	V
Supply Voltage for Display	VCC	---	7.00	7.50	8.00	V
50% Checkboard Operating Current.	IDD	VDD=7.50V	---	6.00	13.00	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% Checkboard Brightness			80	100	---	cd/m ²
CIEx(Blue)		(CIE1931)	0.12	0.16	0.20	---
CIEx(Blue)		(CIE1931)	0.22	0.26	0.30	---

OLED Life Time			
Item	Conditions	Typical	Remark
Operating Life Time	Ta=25°C. Initial Checkboard brightness, 50%.	20,000 Hours	---

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