


MCOT096016C1V-BI	96 x 16	Blue	OLED Module
<b>Specification</b>			
Version: 1		Date: 08/08/2017	
<b>Revision</b>			
1	06/01/2017	First issue.	

Display Features		 <b>RoHS</b> compliant	
Resolution	96 x 16		
Appearance	Blue on Black		
Logic Voltage	3V		
Interface	I2C		
Module Size	29.10 x 9.20 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)

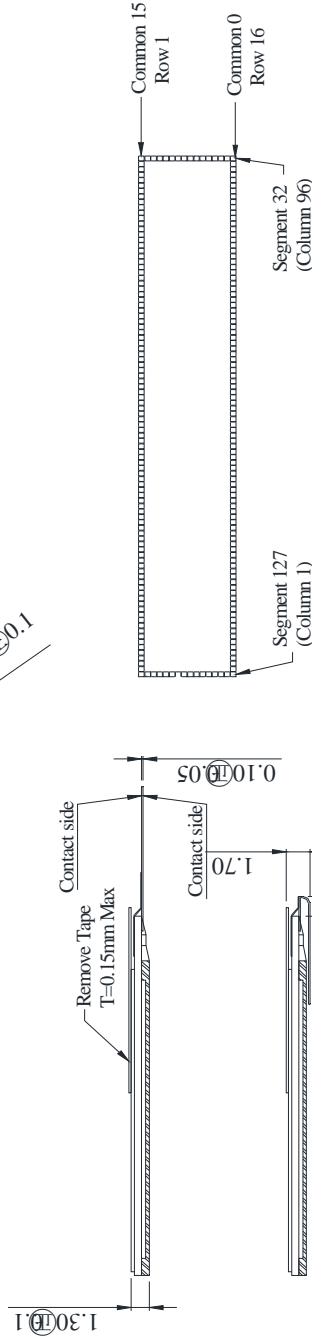
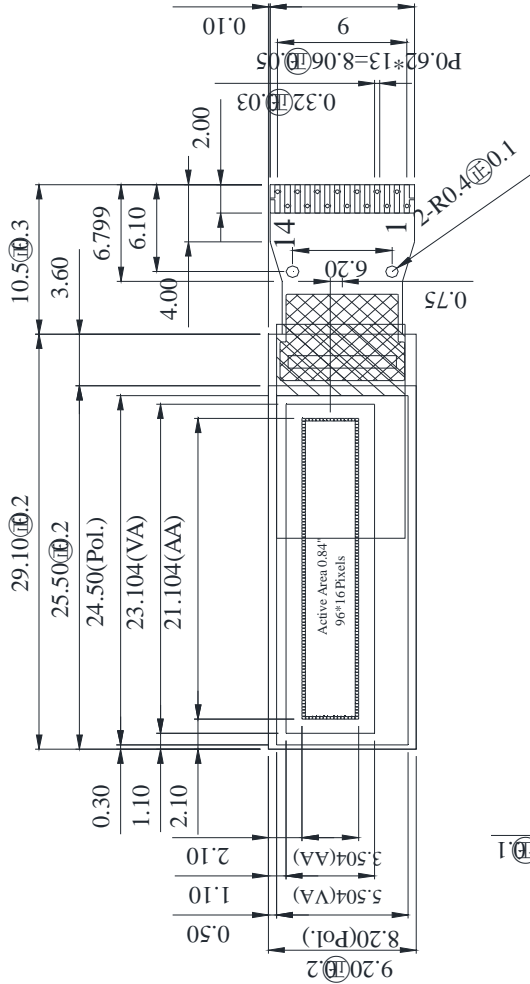
Display Accessories	
Part Number	Description

Optional Variants	
Appearance	Voltage
White	

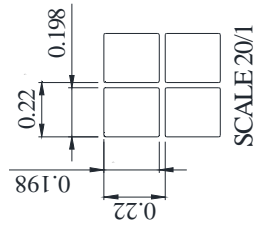
# Mechanical Specifications

Module Size	29.10 x 9.20 x 1.30 mm (Without Backlight)			W x H x D mm
Active Area	21.104 x 3.504	W x H mm	Hole-to-Hole	---
Dot Size	0.198 x 0.198	W x H mm	Dot Pitch	0.220 x 0.220

PIN NO.	SYMBOL
1	C2N
2	C2P
3	C1P
4	C1N
5	VBAT
6	NC
7	VSS
8	VDD
9	RES#
10	SCL
11	SDA
12	IREF
13	VCOMH
14	VCC



The non-specified tolerance of dimension is  $\pm 0.3$  mm.



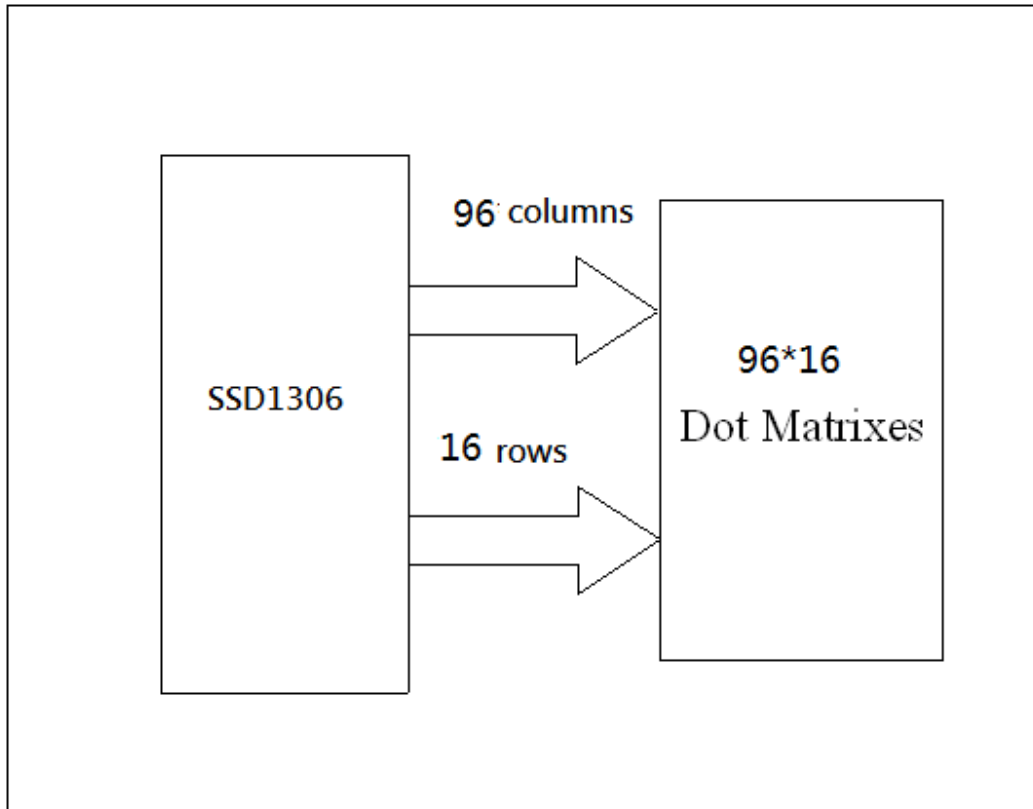
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<b>Pin layout</b>			
<b>Pin</b>	<b>Symbol</b>	<b>Description</b>	<b>Remarks</b>
1	C2N	Positive Terminal of the Flying Inverting Capacitor Negative Terminal of the Flying Boost Capacitor. The charge-pump capacitors are required between the terminals. They must be floated when the converter is not used.	
2	C2P		
3	C1P		
4	C1N		
5	VBAT	Power Supply for DC/DC Converter Circuit. This is the power supply pin for the internal buffer of the DC/DC voltage converter. It must be connected to external source when the converter is used. It should be connected to VDD when the converter is not used.	
6	NC	No connection.	
7	VSS	Ground of OEL System. This is a ground pin. It acts as a reference for the logic pins. It must be connected to external ground.	
8	VDD	Power Supply for Logic This is a voltage supply pin. It must be connected to external source.	
9	RES#	Power Reset for Controller and Driver This pin is reset signal input. When the pin is low, initialization of the chip is executed.	
10	SCL	I2C Bus Clock Signal. The transmission of information in the I2C bus is following a clock signal. Each transmission of data bit is taken place during a single clock period of this pin.	
11	SDA	I2C Bus Data Signal. Pin acts as a communication channel between the transmitter and the receiver.	
12	IREF	Current Reference for Brightness Adjustment. This pin is segment current reference pin. A resistor should be connected between this pin and VSS. Set the current lower than 10 $\mu$ A.	
13	VCOMH	Voltage Output High Level for COM Signal. 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.	
14	VCC	Power Supply for OEL Panel. This is the most positive voltage supply pin of the chip. Supply externally.	

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## Block Diagram



\*For more information, please refer to Application Note provided by Midas.

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Absolute Maximum Ratings						
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VDD	---	0.00	---	4.00	V
Supply Voltage for Display	VCC	---	0.00	---	16.00	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	---	0.80xVDD	---	VDD	V
Input Low Voltage	VIL	---	0.00	---	0.20xVDD	V
Output High Voltage	VOH	---	0.90xVDD	---	VDD	V
Output Low Voltage	VOL	---	0.00	---	0.10xVDD	V
Supply Voltage for Logic	VDD	---	2.80	3.00	3.30	V
Supply Voltage for Display (Supplied Externally)	VCC	---	7.00	7.50	7.80	V
Charge Pump Regulator Supply Voltage	VBAT	---	3.30	---	4.20	V
Charge Pump Output Voltage for Display (Generated by Internal DC/DC)	Charge Pump VCC	---	7.00	7.50	7.80	V
50% Checkboard Operating Current (VCC Supplied Externally)	ICC	---	---	7.00	15.00	mA
50% Checkboard Operating Current (VCC Generated by Internal DC/DC)	IBAT	---	10.00	15.00	25.00	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.		---	120	150	---	cd/m <sup>2</sup>
CIE <sub>x</sub> (Blue)		CIE1931	0.12	0.16	0.20	---
CIE <sub>y</sub> (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%.	50,000 Hours	---

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