MCOT128064N2Z-YBM	128 x 64	Yellow and Blue	OLED Module

Specification	
Version: 1	Date: 16/05/2017
Revision	

Display Features	
Resolution	128 x 64
Appearance	Yellow and Blue on Black
Logic Voltage	3V
Interface	Parallel / SPI / I2C
Module Size	26.70 x 19.26 x 1.65
Operating Temperature	-30°C ~ +70°C
Construction	TAB

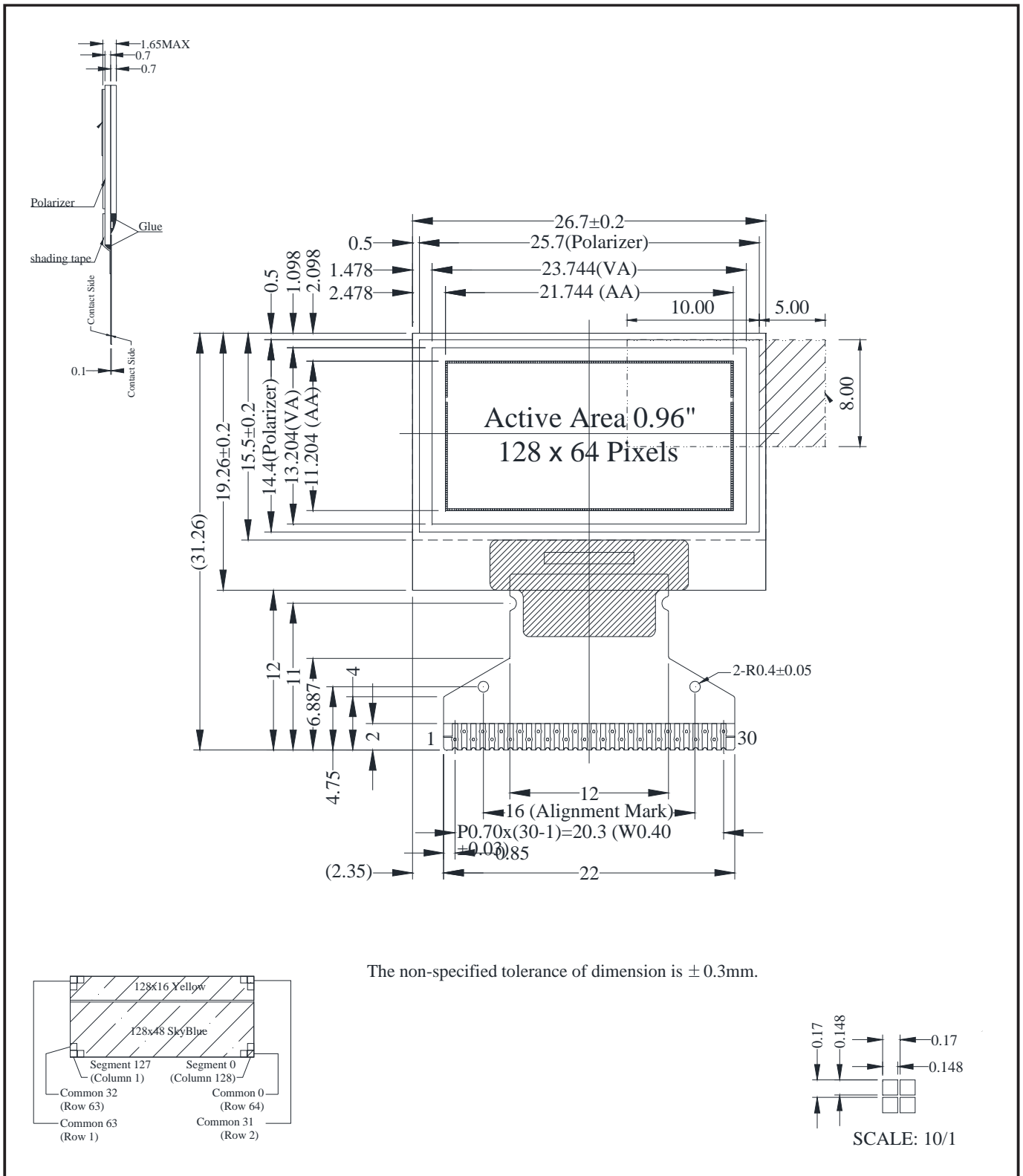|	Box Quantity	Weight / Display
RoHS compliant	---	---

* - For full design functionality, please use this specification in conjunction with the SSD1306 specification. (Provided Separately)

Display Accessories	
Part Number	**Description**
MPBV4-ISS2	Direct solder interconnect board. Driven by any driver board that can be wired to a 2mm pitch 50-way DIL.

Optional Variants	
Appearance	**Voltage**
White on Black Yellow on Black	

Mechanical Specifications

Module Size	26.70 x 19.26 x 1.65 (With Backlight)			W x H x D mm
Viewing Area	23.74 x 13.20	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.148 x 0.148	W x H mm	Dot Pitch	0.17 x 0.17	W x H mm

Active Area 0.96"
128 x 64 Pixels

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

SCALE: 10/1

128x16 Yellow
128x48 SkyBlue
Segment 127 (Column 1)
Segment 0 (Column 128)
Common 32 (Row 63)
Common 0 (Row 64)
Common 63 (Row 1)
Common 31 (Row 2)

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Pin layout			
Pin	**Symbol**	**Description**	**Remarks**
1	NC (Ground)	Reserved pin (Supporting Pin). Must connect to external ground.	
2	C2N	Positive terminal of flying inverting capacitor. Negative terminal of flying boost capacitor. Charge-pump CAPs required between terminals. Must be floated when converter is not used.	
3	C2P		
4	C1P		
5	C1N		
6	VBAT	Power Supply for DC/DC converter circuit. Connect to external source when converter in use. Connect to VDD when not in use.	
7	NC	No Connection	
8	VSS	Ground of Logic Circuit. Must be connected to external ground.	
9	VDD	Power Supply for Logic. Connect to external source.	
10	BS0	Communicating Protocol Select. MCU interface selection inputs. I2C: BS0= 0 BS1= 1 BS2= 0 3-Wire SPI: BS0= 1 BS1= 0 BS2= 0 4-Wire SPI: BS0= 0 BS1= 0 BS2= 0 6800 Parallel: BS0= 0 BS1= 0 BS2= 1 8080 Parallel: BS0= 0 BS1= 1 BS2= 1	
11	BS1		
12	BS2		
13	CS#	Chip Select. Pulled Low = Enabled for MCU communication.	
14	RES#	Power Reset for Controller and Driver. When pin is low, initialisation of chip is executed.	
15	D/C#	Data / Command Control. Pulled High = Input at D7~D0 is treated as display data. Pulled Low = Input at D7~D0 will be transferred to the command register. Pulled High in SPI mode = Data at SDIN treated as data. Pulled Low in SPI mode = Data at SDIN will be transferred to the command register. I2C mode pin acts as SA0 for slave address selection.	
16	R/W#	Read / Write Select or Write. MCU interface pin. When interfacing to 6800 microprocessor, this will be used as Read / Write (R/W#) selection input. Pull High for Read and Low for Write. 8080 interface mode is selected, this will be used as Write (WR#) input. Data write operation is initiated when this pin is puled Low and the CS# is pulled Low.	
17	E/RD#	Read / Write Enable or Read. MCU interface input. When interfacing to 6800 microprocessor, this will be used as Enable (E) signal. Read/Write initiated when pin pulled High and CS# is pulled Low. Connecting to an 8080 microprocessor, this pin receives the Read (RD#) signal. Data read operation is initiated when is pin is pulled Low and CD# is pulled Low.	
18-25	D0~D7	Host Data Input / Output Bus. 8 bit Bi-directional data bus to be connected to microprocessors data bus. SPI selected, D1 will be SDIN and D0 will be SCLK. I2C selected, D2 and D1 should be tied together and serve as SDAout and SDAin in application and D0 is SCL.	
26	IREF	Current Reference for Brightness Adjustment. Resistor connected between this pin and VSS current lower than 12.5μA.	
27	VCOMH	Voltage Output High Level for COM Signal. Pin is the input pin for the voltage output high level for COM signals. Capacitor connected between this pin and VSS.	
28	VCC	Power Supply for OEL Panel. Stabilisation capacitor should be connected between this pin and VSS when converter is used. Connect to external source when converter not used.	
29	VLSS	Ground of Analog Circuit. Connect to VSS externally.	
30	NC (Ground)	Reserved Pin (Supporting Pin) Must connect to external 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	---	3.30	V
Operating Temperature	Vopr	-30	---	70	°C
Storage Temperature	Vstg	-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	IOH=-0.5mA	0.90	---	VDD	V
Output Low Voltage	VOL	IOL=0.5mA	GND	---	0.10	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
50% Checkboard Operating Current.	IDD	VDD=5V	9.00	10.00	12.00	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			60	80	---	cd/m^2
CIEx(Yellow)		(CIE1931)	0.45	0.47	0.49	---
CIEy(Yellow)		(CIE1931)	0.48	0.50	0.52	---
CIEx(SkyBlue)		(CIE1931)	0.12	0.16	0.20	---
CIEy(SkyBlue)		(CIE1931)	0.22	0.26	0.30	---

OLED Life Time

Item	Conditions	Typical	Remark
Operating Life Time	Ta=25°C. Initial checkboard brightness, 50%.	10,000 Hours	---