MCOT128128RV-WM	128 x 128	White	OLED Module

Specification	
Version: 1	Date: 16/05/2017

Revision		
0	29/06/2016	First release

Display Features	
Resolution	128 x 128
Appearance	White on Black
Logic Voltage	3V
Interface	Parallel / SPI / I2C
Module Size	36.98 x 41.23 x 2.05 mm
Operating Temperature	-40°C ~ +80°C
Construction	TAB

RoHS compliant

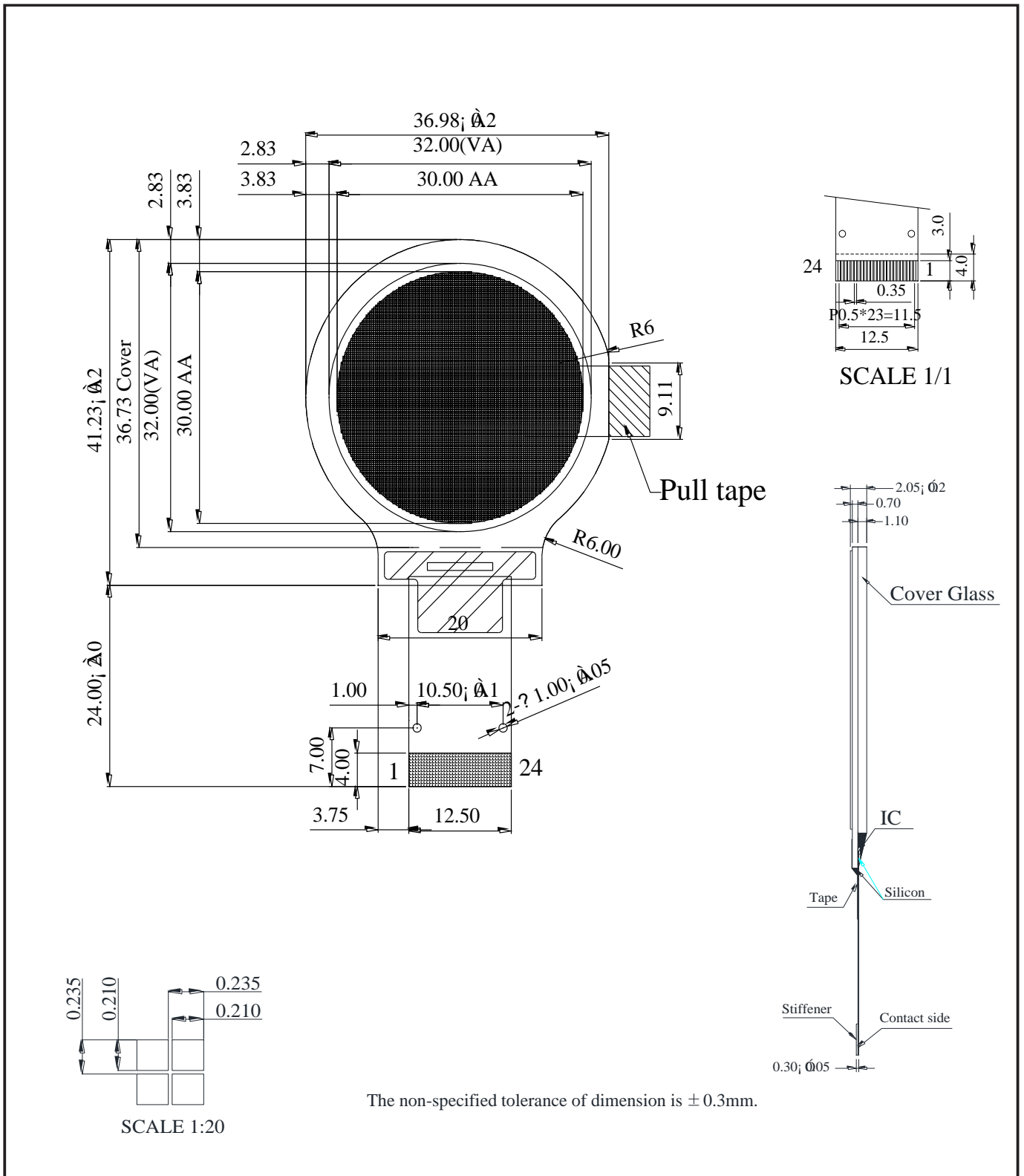| Box Quantity	Weight / Display
---	---

* - For full design functionality, please use this specification in conjunction with the SSD1327ZB specification. (Provided Separately)

Display Accessories	
Part Number	Description

Optional Variants	
Appearance	Voltage
Blue on Black Yellow on Black	

Mechanical Specifications

Module Size	36.98 x 41.23 x 2.05 (With Backlight)			W x H x D mm
Viewing Area	32.00 x 32.00	W x H mm	Hole-to-Hole	---	W x H mm
Dot Size	0.210 x 0.210	W x H mm	Dot Pitch	0.235 x 0.235	W x H mm

36.98¡À2
32.00(VA)
30.00 AA
2.83
2.83
3.83
3.83

41.23¡À2
36.73 Cover
32.00(VA)
30.00 AA

R6

9.11

Pull tape

R6.00

20

24.00¡À0

1.00

10.50¡À1

2-? 1.00¡À05

7.00
4.00
1
24
3.75
12.50

0.235
0.210
0.235
0.210

SCALE 1:20

24
1
3.0
4.0
0.35
P0.5*23=11.5
12.5

SCALE 1/1

2.05¡À2
0.70
1.10

Cover Glass

IC

Tape
Silicon

Stiffener
Contact side

0.30¡À05

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

MCOT128128RV-WM	128 x 128	White	OLED Module
Specification			
Version: 1		Date: 16/05/2017	
Revision			

Pin layout

Pin	Symbol	Description	Remarks
1	VSS	Ground. Connect to external ground.	
2	VCC	Power Supply for driving voltage. Positive power voltage supply pin.	
3	VCOMH	COM signal deselected voltage level. Capacitor between here and VSS.	
4	VCI	Low Voltage power supply. Should match with MCU interface voltage level and must connect to external source. Must always be ≥ VDD.	
5	VDD	Power Supply pin for core logic operation.	
6	BS1	MCU bus interface selection pins. Select appropriate logic setting, as described below: (Note: "0" is connected to VSS and "1" is connected to VCI)	
7	BS2	I2C = BS1: 1 BS2: 0 4-wire SPI = BS1: 0 BS2: 0 8-bit 68XX = BS1: 0 BS2: 1 8-bit 80XX = BS1: 1 BS2: 1	
8	VSS	Ground Pin, must connect to external ground.	
9	IREF	Segment output current reference pin.	
10	CS#	Chip Select Input connecting to MCU. Chip is enabled for MCU communication when CS# is pulled Low.	
11	RES#	Reset Signal Input. Initialisation is executed when pulled Low. Keep pulled High during normal operation.	
12	D/C	Data / Command control pin connect to MCU. High= Data at D(7:0) interpreted as data. Low= Data at D(7:0) transferred to command register. I2C mode = SA0 for slave address selection. 3-Wire SPI = Connect to VSS	
13	W/R#	Read / Write input pin, connecting to MCU interface. 6800 Mode= R/W (R/W#) selection input, read mode carried out when pulled High, write mode when Low. 8080 Mode= WR (W/R#) input, data write initiated when pin is pulled Low and chip is selected.	
14	RD#	MCU Interface Input. 6800 Mode= Enable (E) signal pin, Read/Write initiated when pin is pulled High and chip is selected. 8080 Mode= Read (RD#) signal pin, read operation initiated when pin is pulled Low and chip is selected. I2C or SPI selected = Connect to VSS.	
15	D0	Bi-directional data bus connecting to MCU data bus. Unused pins to tie low. SPI Mode= D0 will be Serial Clock input (SCLK). D1 will be the Serial Data input (SDIN) and D2 should be kept NC. I2C Mode= D2 and D1 should be tied together and serve as SDAout, SDAin in application and D0 is Serial Clock input (SCL).	
16	D1		
17	D2		
18	D3		
19	D4		
20	D5		
21	D6		
22	D7		
23	VCC	Power Supply for panel driving voltage. Supplied externally.	
24	VSS	Ground.	

Absolute Maximums Ratings

Item	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage for Display	VCC	-0.50	---	19.00	V
Supply Voltage for Logic	VDD	-0.50	---	2.75	V
Supply Voltage for Operation	VCI	-0.30	---	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	---	14.00	14.50	15.00	V
50% Checkboard Operating Current.	IDD	VDD=14.5V	23.00	24.00	26.00	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/m²
CIEx(Blue)	(CIE1931)		0.26	0.28	0.30	---
CIEy(Blue)	(CIE1931)		0.30	0.32	0.34	---

OLED Life Time

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

MCOT128128RV-WM	128 x 128	White	OLED Module
Specification			
Version: 1		Date: 16/05/2017	
Revision			